

# University of Calcutta

ANTHROPOLOGICAL PAPERS No. 6

## THE FIRST OUTLINES OF A SYSTEMATIC ANTHROPOLOGY OF ASIA

WITH TABLES OF STATURE, CEPHALIC INDEX AND  
NASAL INDEX OF LIVING SUBJECTS

BY

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BRUSSELS, LONDON, SOUTH AFRICA, &c.

TRANSLATED FROM ITALIAN

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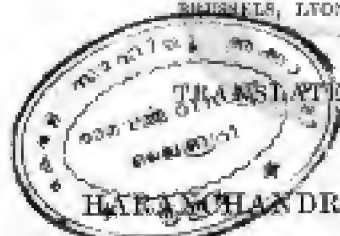
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# The First Outlines of a Systematic Anthropology of Asia

(*With Tables of Stature, Cephalic Index and Nasal  
Index of living subjects.*)

BY

PROF. V. GIUFFRIDA-RUGGERI.

*Translated from Italian*

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HARANCHANDRA CHAKRADAR, M.A.,

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## INTRODUCTION.

A fact which is of great importance for the future of anthropology and which has escaped the notice of superficial observers of the anthropological movement—of those who seek for some anatomical novelty, losing sight of the true scope and object of our studies—is the new compilation made in late years of anthropological tables much more extensive and ample than the old and antiquated ones of Topinard (and this has naturally followed from the accumulation of the huge mass of materials that have been recently studied). It may well be conceived that if these old tables, although incomplete, have in the past been of so much service whenever one undertook the somatic study of any population of the earth, so much more will the new tables, which represent an incomparably

superior and better instrument of work and which greatly reduce the labour of supplementary research, prove—and they have already proved—to be useful to students of anthropology. The tables which have been drawn up in the early years of the present century, are due to three eminent anthropologists, universally known, not for their personal opinions—which some people go prying about for the proper estimation of unknown celebrities—but for the immense service that they have rendered to the progress of our studies, and they are, mentioned in the order of publication of their works : Deniker,<sup>1</sup> Ivanovski,<sup>2</sup> and Martin.<sup>3</sup> Whosoever has undertaken a study of anthropology—not purely morphological, or anatomical, since in such a case it is necessary to have recourse to other branches of science—whoever has had to lecture on anthropology, knows how much trouble has been spared in research and with what rapidity things can be acquired and mastered by making use of Deniker or Martin in place of Topinard and Ranke. In this way is being achieved a continuous progress *in vivo*, which attests to the maturity and autonomy now attained by our science.

Of course it is not to be thought that there is no defect anywhere and that the work already done is above all criticism. On the contrary, it is certainly our duty—however disagreeable—to be very much on our guard with regard to the data, supplied by Martin's tables owing, it may be, either to the confirmed ill-health of the author—for which reason he left the public chair which he had rendered illustrious at Zurich—or to the excessive confidence placed by him in some of his collaborators, as is quite probable. I give a few examples, with

<sup>1</sup> DENIKER (J.), *Les Races et les Peuples de la Terre*. Paris, 1900, Appendices.

<sup>2</sup> IVANOVSKI (A.A.), *Математическое антропологіе*. Moscow, 1911.

<sup>3</sup> MARTIN (R.), *Lehrbuch der Anthropologie in systematischer Darstellung*. Jena, 1904.

the hope that in a second edition of the valuable *Lehrbuch* the errors of the tables will be corrected.

In the table of stature there appears on page 213, an author "Gischiga" who had measured the Jukagiri and the Tungusi: everything instead shows that here we have to do with Mrs. Jochelson-Brodsky, and that Gischiga is not an anthropologist, but is only a district of the extreme N. E. of Siberia called by that name or rather Ghiscighinsk. Checking individual figures, we may correct several: for example, the average stature of the Igorot ♂ given by Bean is 1540 mm. and not 1549, that of the Semangs ♂ measured by Annandale is 1528 and not 1530 which represents the span between the arms. An error has crept in with reference to the Kayans indicated by the statures ♂ 1572 and ♀ 1440, which are erroneously attributed to Haddon, while instead we have here those measured by Nieuwenhuis and published by Kohlbrügge: the 21 Kayans ♂ of Haddon have the average of 1559 and do not appear in Martin's table.

The same inaccuracies can be pointed out in the table of the cephalic index on page 674 for the Kayans ♂ and ♀ who are attributed to Haddon but belong instead to Kohlbrügge. On page 672 the cephalic index 79.9 of the Lepchas is attributed erroneously to Legendre while it appears in the "Census of India" for 57 Lepchas of Sikkim.

In the table of nasal index there are given some data that cannot be compared with one another on account of the technically different methods adopted for the measurement of the nasal length or, as it is sometimes improperly called, the nasal height. It can be measured by the method of taking a shorter length, *viz.*, the distance from the point of the lowest depression of the nasal dorsum (instead of the nasion) to the sub-nasal point and

since, for getting the nasal index one has to take this length as equal to 100, therefore, if this is smaller, the nose appears larger, *viz.*, we get a higher figure as the nasal index. Thus the figures obtained from the natives of the Philippines by Bean who adopted the lowest point of the depression "between the eyes" have to be omitted in the table on page 448 of Martin: and moreover, Bean himself says that his indices are not to be compared with those of other authors. I think also that the nasal index of 70.2 for the Sojots measured by Gorotscenko (referred to by Mrs. Jochelson-Brodsky, but perhaps by a misprint) is to be changed into 76.2, as we find it in the tables of Ivanovsky. Finally, we fail to understand why Martin gives 66.7 as the nasal index for the Ainus measured by Koganei: for the Ainus of Jesso I have obtained from the figures of Koganei 68.0 as the index and for the Ainus of Sakhalin (who are only 8 in number) 71.7.

Moreover, everything relating to the geographical distribution of the people in the tables of Martin leaves much to be desired: it would suffice to say that Martin places in Asia many peoples who are inside the geographical boundaries of Europe: the Syrians ("Zirianen," who are not to be confounded with the Syrians), the Permiaks, the Baskiri, the Osseti, the Tatars of Cazan measured by Sucharew, the Calmuks that were measured by Vorobieff and by Koroleff and belong both to Astrakan.

The three tables in the "appendix" of Deniker do not show the names of the particular authors with regard to stature and cephalic index: only in the case of the small table of nasal index are the names of the authors given. As regards Asia, I found the data given by Deniker, in general, accurate, although a few trans-caucasian peoples

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\* Bean (B. Bennet), *Philippine Types: Social Anatomy in Tagalog*. *The Mes.* The Philippine Journ. of Science, IV, 1908, n. 5, p. 378.

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are found assigned to Europe, to facilitate the common treatment of the whole Caucasus which is adopted in the text. These data I have transcribed in my tables, and I have indicated them by the letter *D*, omitting the names of the individual authors anterior to Deniker and utilised by him. It is only necessary to call attention to the fact that the 332 Kurds whose cephalic index Deniker gives on p. 669 as 78·5, and who certainly are the same as those of Chantre, are not all ♂ but 62 ♀.<sup>1</sup>

I have found Ivanovsky's tables extremely accurate and I have transcribed by far the larger number of the data from them, indicating them by *Iv.*,<sup>2</sup> thus omitting the authors utilised by him whose names can be verified from his tables: from these also I have drawn almost all the percentages which are seen in my tables, according to the subdivisions of Ivanovsky. I have omitted nearly all the series containing less than 10 individuals which are very numerous, although not entirely useless.

A fact to be taken into consideration is the arrangement of the material. This has been done by Deniker and by Martin in the simplest way, distributing, that is to say, the material into just as many sections as there are parts of the globe; to this Ivanovsky had added Russia, taking out the Russian territory from Asia and from Europe. This innovation, if it shows up the enormous anthropometric work accomplished by Russian anthropologists which can be cited to the honour of a generation now gone out, is not, however, an innovation

<sup>1</sup> CHANTRE (H.), *Recherches anthropologiques dans l'Asie occidentale*, Arch. du Muséum d'Hist. Nat. de Lyon, T. IV, Lyon, 1895, p. 102. Besides, this fact is to be taken with great caution, in as much as Chantre asserts (*Ibid.* p. 113) that almost all the Kurds have deformed craniums, the ♀ a little less.

<sup>2</sup> Indirectly I have also made use of the older work of IVANOVSKY (A.A.), *Ob antropologičeskijh isstraženijh vostočnoj Rusij*, Moscow, 1904 (unfortunately—under the present conditions—I have not been able to procure a copy).



destined to be perpetuated, it not being rational, and, moreover, being surpassed by historical events.

Of the other authors, I shall mention that Mrs. Jochelson-Brodsky, on her return from the "Jesup Expedition," published in 1906, two tables, one of the stature, and the other of the ceph. index "of the ural altaic peoples and of the other peoples of north-eastern Asia," making known to the west the great progress that the anthropological study of these peoples had made in the Russian empire, and adding a few new facts from that useful "Expedition," which, however, notwithstanding the high patronage of the "American Museum of Natural History," has not yet published all the anthropometric results. The comprehensive designation of these peoples is however so confusedly arranged as to place the Lapps alongside the Torguts, the Chukchi beside the Tatars of Casan, the Chinese next to the Baskiri and so on.

I believe that we should consider this first period of preparation of the materials of study as at an end and that we may pass on to the second period, when we should try to find some logical orientation among such data as have gone on accumulating; this orientation can perhaps be realised by distributing the peoples as if they could be classified in varieties and sub-varieties, allocating them in a provisional scheme and overlooking all that,—unfortunately a great deal—which we ignore about them. The objection is obvious: the peoples represent ordinarily mixtures of many varieties. Nevertheless we do not consider it convenient to adopt the system of having pure series (Sergi): it would be very easy to set aside all that which does not fit in well enough, but naturally would thus be so much the less convincing for others. It is necessary instead to take the ethnic groups just as

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JOCHELSON-BRODSKY (D.), *Zur Topographie des weiblichen Körpers unentwickelterer Völker*. Arch. f. Anthrop. N. F., 7., 1906, pp. 5, 12.

they are, that is to say, more or less mixed up, and to bear in mind that the *taxonomic classification satisfies the majority in each series examined*. When one deals with some ethnic groups that are little known, or for whom the taxonomic classification of the majority appears to be very little clear or impossible owing to pronounced admixture, one has to desist from such classification: thus, for such groups we have the designation of "unclassified groups." Of course, it is not to be supposed that all the individuals of such groups are unclassifiable; on the contrary every individual could very well be classified by physical anthropologists. It is, instead, the ethnologist who cannot pronounce with regard to the classification of the ethnic group, since it is one thing to take into consideration, for example, every Japanese, and another thing to consider the "Japanese" people as we necessarily have to do in our tables. An arbitrary procedure does not advance science, while in many cases we have to leave to the future the task of drawing these people out from the limbo of the unclassified. They meanwhile represent problems for students to work at. As Pittard has rightly observed: "There will certainly come a day when anthropology will disentangle the skein of the Asiatic people. That will be when we have entirely got rid of all the linguistic and political etiquettes which encumber the road without any profit to science."<sup>1</sup>

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<sup>1</sup> PITTARD (E.), *Anthropologie de la Roumanie. Les peuples sporadiques de la Dobroudja*: III Contribution à l'étude anthropologique des Kordes. "Infl. Soc. Roum. des sciences" xx, n. 1, p. 65. Bucharest, 1911.

## I

To proceed to a *naturalistic classification* we wish to examine Matthew's hypothesis that the primitive centre of dispersion of the *Hominidae* was situated in central Asia, and that the first waves of distribution proceeded to the south of the great range of mountains, whose E. W. direction represented a protective defence for those early Hominids.<sup>1</sup> Besides the tropical forests on the continent, the insular habitat in the islands in the Indian Ocean and the Western Pacific, must have served as so many areas of preservation for particular sections of these first human groups. According to Matthew the same distribution must have taken place on general lines for all the Primates<sup>2</sup>: the South-American centre of dispersion is relegated to the domain of fable.

We do not think that the hypothesis of Matthew is absolutely opposed to ours, which was given by us at the same time as his,<sup>3</sup> namely, that there have been three genetic centres of the races in Asia—one for the Eurasiatic North (formation of the Leucoderms), another for eastern Asia,<sup>4</sup> whence the formation of the yellow stock and its derivatives in America and in Oceania, and a third for the southern regions of the ancient world. In fact, the two first centres may be contiguous if we place them, for instance, towards Zungaria. If we place

<sup>1</sup> MATTHEW (W. D.), *Origins and Evolution*. Annals of the New York Academy of Sciences.

<sup>2</sup> MATTHEW (W. D.), *loc. cit.* Figures 6 and 7 show exactly the same genetic behaviour for man and the other Primates: in fig. 6 the Negritos are erroneously assigned to Africa.

<sup>3</sup> GIUFFRIDA-RUGGERI (V.), *La così detta razza dell'umanità*. "Riv. Ital. di Sociol." six, fasc. V-VI, 1916, p. 633.

<sup>4</sup> In my article *refd. to*, p. 328, "Western Asia" was a misprint for eastern. I think that Prof. Boule has rightly adjudged my hypothesis as "a sort of conciliation between the monogenists and polygenists" ("L'Anthropologie," xxviii, 1917, p. 698).

a single flum of ancestral representatives in central Asia, and admit that the passage of the southern barrier was effected in successive waves, then it follows that, even with such a hypothesis, the third genetic centre placed by us in the southern regions, can be connected originally with central Asia. In other words, the unity of the flum is anterior to the differentiation, contemplated in our hypothesis.

The hypothesis of Matthew is in favour of heterochronism, so that we can complete it in the form of a scheme for Asia, distributing as follows all the Asiatics of the present day :

(a) Groups of the 1st cycle of migrations: Proto-morphs and (secondly) metamorphs of India and the Philippines, the Ainus, Negritos, Australoids (Veddah, Toala, etc.), Dravidians.

(b) Groups of the 2nd cycle of migrations: Leucoderms, Mongolians, Indonesians.

That Asia was inhabited in Palaeolithic times, when the fauna was different from that at the present day is a fact that has been already demonstrated: Deniker<sup>1</sup> notes the association of instruments of quartzite with the bones of extinct animals in the ancient alluvium of the rivers Nerbudda, Krishna and Godavari<sup>2</sup> and records other instruments in Siberia beside the skeleton of a mammoth broken to pieces. What some of the ancient inhabitants may have been we may surmise from the excavations of Turkestan, which have yielded elongated crania with

<sup>1</sup> DENIKER (J.), *op. cit.*, p. 423.

<sup>2</sup> Of this and other discoveries which have taken place in India a very valuable sketch has been lately published by PANDURAMAN MITRA, *Prehistoric Civilisations and Races of India. A Preliminary Review*. "The Calcutta University Journal of Arts," Vol. I, Calcutta, 1919, pp. 137 ff and also *Prehistoric Arts and Crafts of India*. University of Calcutta, Anthrop. Pap., No. 1, Calcutta 1920. For other parts of Asia consult BURCH (M.), *Les hommes fossiles*, Paris, 1921, pp. 354 ff.

non-mongoloid features,<sup>1</sup> but this does not enlighten us about the origin of the most important stock for the Asiatic continent, which is precisely *Homo Asiaticus* (L.), or *Homo orientalis*.

To go further back as Klaatsch did with that futile hypothesis which Keith has called pan-anthropoid,<sup>2</sup> somewhat in derision, is not our task.

Let us content ourselves therefore, necessarily, with the present data and appreciate them as already done by De Quatrefages from a purely systematic point of view. Moreover, we believe that the human fossils of Europe appertain to another cycle of migrations, anterior to those here considered.

The characters of *H. Asiaticus* have been given by a large number of authors. Biasutti, last and most complete of all, mentions:<sup>3</sup> leiotrichy, brachyskelic (thick and short) somatic proportions, Mongolian eye, and characteristic flatness of face, which together with the projection of the zygomatic bones constitute the Mongolian face. One may say that *H. Asiaticus* is recognised by the face: "it represents a low relief in all its parts: the slightly retreating forehead passes without the relief of superciliary arches on to the medium facial plain where the long nasal bones, narrow and flat, are inserted without depressions at the roots, while the large zygomatic bones protrude forward and beyond; so that the nasal dorsum emerges little from the cheeks which are large and full; the eyes with their Mongolian fold are at the surface of the head; alveolar prognathism is wanting (at least in the

<sup>1</sup> SERRI (G.), *Delle esplorazioni del Turkestan*—"Atti Soc. Rom. Antrop." xlii, 1887, fasc. III, fig. 2, etc.; also of the same author, *Farago*, Torino, 1908, pp. 431 ff.

<sup>2</sup> KEITH (A.), *Huxley's Theory of the Descent of Man*, Nature, lxxv, Feb. 18, 1911, pp. 508-510.

Biasutti (R.), *Studi sulla distribuzione dei caratteri e dei tipi antropologici*. *Memorie Geografiche*. (Suppl. "Riv. Geogr. Ital."), 1912, N. 18, Firenze; pp. 121 et seq.

pure forms) and instead there is a certain projection forward of the whole of the upper face in continuation of the plain given by the forehead. The mandible is high, wide transversally and with the chin sometimes a little prominent. The face, high and broad as it is, appears of large dimensions."

From the systematic point of view these are all characteristics not deeply marked: they are very little more than the characteristics of a sub-species, even adding the two integumentary characteristics of the cutaneous coloration, more or less yellow in tone, and of the scant hairiness of the body. Although the habitat of this little species is very vast and situated at various terrestrial heights, the internal homogeneity of the characteristics is such as to present only slight regional modifications of the type.

If the morphological facts described above do not permit any subdivisions into varieties—and that is natural, since they appertain to all the component parts of the species, *H. Asiaticus*,—there are yet other characteristics to be taken into consideration, which might not be the same for all; these are the shape, short or long, high or low, of the cranium, as appears from diverse indices (ind. of width-length and of height), the stature and the nasal index. Really these characters are the best for the subdivision of *H. Asiaticus*, as for the subdivision of other human species, and practically they have been already utilised in the descriptions that have been given (for example, by Deniker) about this or that population. Those summary notices which we read at the end of every description (average stature, ceph. or nas. index, generally of the living) should be completed and collected together in a systematic table. But a systematic exposition of these three characteristics, or better, of their averages—eventually also of other characteristics, e.g., the facial

index—can only be obtained by adopting a systematic classification of the populations: a simple succession of figures in ascending or descending order, or of the peoples in an alphabetical order, resembling the lists published by Deniker, by Ivanovsky or by Martin, is without importance for the purpose of subdividing the species *H. Asiaticus*.

A glance at any one of these three lists shows at once, that the *cephalic index* of the so-called Mongolians and their kindred does not present such a uniformity of brachycephalism, as to render this character useless for the subdivision of *H. Asiaticus*: on the contrary, this species includes as many dolicho-mesaticephals as brachycephals, and the first, in my opinion, are the morphological predecessors of the second. If we add the criterion of the relative height of the cranium, as has been done by Biasutti with the help of the index of width-height in his Map VII, the uniformity disappears entirely, giving place to a distinction of areas and zones more or less circumscribed, which is of the greatest interest for the purpose of the subdivision of *H. Asiaticus*, sought by us. In Map VII of Biasutti we find the extreme N. E. Asia forming a quite distinct zone: it is an area in which the average cephalic index varies from 81 to 82.9 in the living subjects and in which plati-cephalism is not very prominent. This area is inhabited by the Chukchi and the Asiatic Eskimo: both of them appear in our classification as *H. Asiaticus neorecticus*, in consideration of their kinship with the American Eskimo who really appertain to the same variety.

Proceeding towards the west we find other distinct zones for the ceph. index: all the remaining portion of Siberia, with the exclusion of the Samoyeds, the Soyots and the Yenisseian Ostyaks, show a ceph. index varying on an average from 78 to 82.9 in living subjects, while

platicephalism attains its maximum of frequency, that is to say is more than  $\frac{2}{3}$ . To this zone we assign *H. Asiaticus palcoarcticus*<sup>1</sup> which is comparatively dolichomesaticephalic, and *H. Asiaticus altaicus* which tends more towards brachycephalism. The distinction however depends upon other differences and is based specially upon a study of the now almost extinct Yenisseian tribes, whom we conventionally call "Altaic." We put together the Samoyeds, Soyots and the Yenisseian Ostyaks in a brachycephalic sub-variety: *Palcoarcticus brachymorphus*.

Proceeding towards the south we find two zones of clear and distinct brachycephalism: one represented by Manchuria and by the contiguous maritime zone, the other represented by central Asia. The whole of the latter area however does not appertain to *H. Asiaticus*, as we must separate from it the area inhabited by the Galchas, the Tajiks and other kindred Pamirians, who we maintain, differing from Sergi, have nothing of the Mongolian in them.<sup>2</sup> These being left aside there remains a nucleus of true Asiatics with ceph. ind. above 83 and with more than  $\frac{2}{3}$  of platicephals whom we put collectively with the Manchus: both (that is to say, the Manchus and the other Mongolians of Central Asia) appear in our classification, conventionally, as *H. Asiaticus centralis*.

Still further to the south there are prominent two areas, Tibet and China (with Corea), both with a

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<sup>1</sup> Really the Palcoarctic zone is much more extensive and includes almost the whole habitat of *H. Asiaticus*: it is useless to say that we have to do with denominations which have only a geographical approximation, for a mnemonic purpose.

<sup>2</sup> Guzzarini-Ronconi (V.), *A proposito di alcuni risultati antropologici dell' spedizione De Filippi al Caucaso*. Rend. R. Acc. Sc. Fis. and Mat. di Napoli. Ser. 2a, Vol. XXIV, 1916. It is therefore not possible for me to follow the system of Sergi, which has been newly taken up by Franzetto and which I consider to be rather misleading.



slight tendency towards brachycephalism, having average ceph. indices from 79 to 82.9 in living subjects. The Chinese and the Koreans show also a great tendency towards hypsiccephalism having from  $\frac{1}{2}$  to  $\frac{2}{3}$  of hypsiccephals, who are not found among the Tibetans. The first are considered by us as typical *H. Asiaticus* while the second appear as *H. Asiaticus tibetanus*.

Last of all there remains Indo-China which in Map VII of Bissutti present the whole variation of the ceph. ind., while the somewhat high percentage of hypsiccephalism characterises them. Of the various areas which may be distinguished in Indo-China, the most extensive one appears to be that which goes towards the Gulf of Siam, in which there is confirmed brachycephalism with indices of 83 and more on an average in living subjects. The natives who show this strong brachycephalism have been denominated by us *H. Asiaticus meridionalis*; while the others who show Dolicho-mesaticcephalism have been called *H. Asiaticus protomorplus*.

Let us now examine Bissutti's other maps and draw conclusions from them. Map IV, which relates to stature, also shows that there are distinct zones and areas. One of them appears clearly to be confined to the extreme N. E.: the area of the Neo-arctics above mentioned, whose stature is rather low. Lower still is that of all the Palaeo-arctic peoples. A perceptible rise is seen in the Altaics according to the tables transcribed by me (*cf.* tab. 1), although they always remain below the average. Nor are the great majority of ethnical groups in Central Asia tall, not even the Chinese and the Koreans. Of low stature are the people of Indo-China and the Tibetans, leaving aside a few groups. One may conclude that *H. Asiaticus* is essentially of low stature, having only some local groups of high stature; but, even in the very slight oscillations of this characteristic, certain lines

coincide with those that I have shown for the ceph. ind., confirming the existence of some distinct human varieties.

Also in Map VI of Biasutti which is devoted to the variations of the nasal index, the extreme N. E. is seen isolated by a high grade of leptorrhiny which is characteristic of the Eskimos and of the Chukchi, while the extreme S. E., that is to say, Indo-China, is distinguished by the opposite feature. In analogy with the nasal index are distributed the variations of the fac. ind., which are seen in Map V of Biasutti. While among all the great mass of the Palearctics, the Altaics and the central Asiatics, the face is predominantly mesoprosopic (fac. ind. 83-85.9), the extreme N. E. is distinguished by a certain frequency of leptoprosopy, which agrees with the low nasal index, and this also is seen in the Chinese of the north and in some groups of Central Asia. The opposite fact is observed in Indo-China, and this is in accord with the high nasal index (platyrrhiny).

I pass over the Ainus and the Japanese: the first, because they have been considered by Biasutti as one of the most ancient branches of *H. Occanicus*. Certainly here we have a local form whose relationship to *H. Asiaticus* has very little support and that only in the colour of the skin. We, instead, allocate them among the protomorphic relics,<sup>1</sup> who have been placed in the last three tables.

The Japanese, about whom there can be no doubt that they are Xanthoderms, have been allocated to the unclassified groups of these, it not being possible to use the average of their anthropological characteristics for the reason that the averages are obtained from values differing much from each other: many varieties, some of which

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<sup>1</sup> We shall return to them at the end of this essay.

do not at all belong to *H. Asiaticus*, have entered into the composition of the Japanese people, and in very remarkable proportions. The same may be said of many peoples of Indo-China. Undoubtedly the Chinese also are not homogeneous; but their impurity and mixture, which are manifest in the north and in the south, are not, considering the large ethnic mass, so serious as among the Japanese. Therefore, we consider *H. Sinicus* as quite the same with *H. Asiaticus*, giving to the latter a concrete and adequate connotation.

The variety *protomorphus* is based principally on the results of the "Census of India"<sup>1</sup> which shows that Assam is peopled by mesocephalic, meso-platyrrhines of low stature, who are also found here and there in Southern China, *viz.*, in the Lissu, Lolo and Miao-tee tribes. Whatever may be said about the Lolos, it is certain that the figures published by Delisle<sup>2</sup> are purely Mougolian. On the other hand the 29 Lolos, about whom Legendre gave information in 1910<sup>3</sup>—that is to say, 19 in a first communication and 10 in a second communication which could not be utilised by Ivanovski (who added only the first 19 to the 6 of Delisle)—show characters so different, as regards stature and the nasal index that for the time it is necessary to put them aside (although they are transcribed in our Tables I, II and III), in order not to prejudice the diagnosis of this variety. It is not impossible that we are dealing with allogenic residues who in their tura are found amongst other primitive residues of *H. Asiaticus*, whom I have placed in the variety *protomorphus*. Both of them must have been pushed forward by

<sup>1</sup> Cf. RIZLER (H. E.), *The People of India*, London, 1916, App. iv, p. 402.

<sup>2</sup> DELISLE (E.), *Sur les caractères physiques des populations du Tibet Sud Oriental*, "Bull. et Mem. Soc. Anthropol.," Paris 1918, p. 473.

<sup>3</sup> LEGENDRE (A.), *Les Lolos*, "Bull. et Mem. Soc. Anthropol.," Paris, 1910, p. 77, and of the same author, *Sur West Chinois, Aborigines; Lolos* *Ibid.*, p. 520.

the later formations and must have travelled very far from their original northern fatherland.

The variety *meridionalis*—which appears indeed in S. E. Bengal, on the boundary-line with Burmah, in the Chakmas of Rangamati (to the east of Chittagong), and extends into the Indo-Chinese Peninsula—is also of low stature and has a nasal index just between the last limit of mesorrhiny and the beginning of platyrrhiny, and is decidedly brachycephalic: it is principally on account of this last character that they differ from the former.

In order that I may not be lightly blamed for reasoning on averages, let me say that, as in S. E. Asia we find together representatives of both these varieties, I therefore assign to the variety *protomorphus* the individuals with more elongated cranium (the forms which it assumes belong to the sphere of skeletal craniology), and to the variety *meridionalis*, those with a short cranium. If in the other characters, the two varieties are very similar, that indicates precisely that here we have simple varieties, which obviously are by no means pure. The platyrrhiny, which is more pronounced in Assam, shows that some races with equatorial physical characters (which coincide with some residue of the Mon-khmer language) has entered into the mixture. But—leaving aside the peninsula of Malacca, in which we have various protomorphic relics that do not form a part of *H. Asiaticus*—the strongest metamorphism (that is to say, change of form) has come into existence in southern Indo-China, which presents other little known races akin to the Indonesians.

I conclude by bringing together the anthropological characters of diverse varieties in the following summary, which is obtained from the data that are furnished *in extenso* in Tables I, II and III, with the exception of the Lolos of Legendra who could not be taken into account

for the reasons stated above, and also of some with doubtful nasal index (the Sciots, Manchus and Torguts).

### SUMMARY I.

#### *Anthropometric Characters of the Asiatic Xanthoderms.*

	Stature.	Ceph. Ind. (Living sub- jects.)	Nasal index (Living sub- jects.)
H. Asiaticus (H. Sinicus) ...	1612-1876	79.8-80.2	72.9-70.0
" Neo-arcticus ...	1623-1625	80.6-82.0	76.7
" Paleo-arcticus ...	1545-1601	78.2-80.8	76.6-79.1
" " brachymorphus ...	1540-1687	80.0-85.9	76.3-78.1
" Altaicus ...	1507-1626	79.2-82.7	71.2-78.9
" Centralis ...	1614-1681	84.9-87.0	71.7-80.6
" Tibetanus ...	1870-1909	76.8-81.6	67.2-75.5
" " brachymorphus ...	1608-1622	83.2-84.2	71.7-74.1
" Protomorphus ...	1590-1686	75.9-80.8	54.0-86.0
" Meridionalis ...	1639-1648	82.7-88.5	86.3

Deniker did not proceed otherwise when fixing the stature and cephalic index (with the nasal index he did not trouble himself) of the Nordic, Alpine, Dinaric, Ibero-insular and the other races of Europe, nor has a better method been yet found for the identification of such races; be that said to the honour of our lamented colleague.

Among the Xanthoderms, the lowest stature is found among the Paleo-arctic people in a wide sense, who make up the largest part of the Siberians; specially the *brachymorphus* sub-variety presents the minimum stature, but it is characterised besides by brachycephaly and some other characters that are not found in the Summary, that is to say, by platycephalism. In fact, Rudenko writes with regard to the Ostyaks of the Yenissei: "Like the Samoyeds and the Sciots they have very low crania (84.0% of the individuals are chamae-cephalic)"<sup>1</sup> He

<sup>1</sup> RUDENKO (S.), *Résultats de recherches anthropologiques sur les peuplades du nord-ouest de la Sibirie.* "Bull. et Mém. Soc. Anthropol.," Paris, 1914, p. 126.

deduces from all the characters taken together that these three peoples are closely related, and thus he feels justified in propounding the following hypothesis, which has the merit of being in accord with the views previously propounded by Castrén, by Charusin and by Goroschtschenko: "A fairly numerous people, the Soyots (or another people of the same race) quitted, in former times, the Altai Mountains, proceeded towards the north and fixed their habitation in the basin of the river Yenissei where we find the remains of this people under the name of the Ostyaks of Yenissei. Passing farther towards the north, a party of this same people occupied the polar Tundra up to the Gulf of Khatan in the east; another party moved towards the west, crossed the Ural Mountains and settled in the northern confines of Europe up to Scandinavia inclusive. In this region it is known under the name of the Samoyed, and on the peninsula of Kolsky and in Scandinavia it is known by the name of Laps."<sup>1</sup>

Besides making this hypothesis Rudenko maintains that on the other hand the Ostyaks of the Ob and the Vogal belong both to another race. Deniker also believes them to be another race naming them "Ugri," short and dolichocephalic, or to be more exact mesaticephalic. These two characteristics, in our opinion, connect them with other Paleocarcitics, as may be seen from our Tables I, II and III; while we, agreeing with the hypothesis referred to above, separate the Samoyeds, the Ostyaks of the Yenissei and the Soyots in a brachymorphous subvariety.

The populations which are now to be found in the high valleys of the Altai belong partly to the variety *altaicus* and partly to the variety *centralis*, as can be seen

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<sup>1</sup> Ibid., p. 136. This hypothesis does not differ from that suggested by us in *L'homme arctique*, Paris, Albright & Seguis, 1913, p. 75.

in a work recently published by Hildén.<sup>1</sup> This Finnish anthropologist was able, in the summer of 1914, to make a voyage to study the eastern regions of the Russian Altai and to measure 162 Lebedins, 88 Tubalars and 49 Telengets of both sexes. He believes, from his somatological examination, that the Lebedins, who are farthest north, are to be considered as Ugres from the Ob in an impure state, whilst the Tubalars are more strongly mixed with the Turco-Tatar peoples, and the Telengets, who are the most southern of all, must be included amongst the Mongolic peoples, although they also present an Ob-Ugrian element.

In my opinion all these denominations only bring confusion and seem to me exactly those linguistical and political labels which are better left aside. For this purpose we wish to show how the three ethnical groups above mentioned can be simply classified according to the preceding Summary I of the "Anthropometric characteristics of the Asiatic Xanthoderms," and we therefore give the averages of the male sex after Hildén :

	Stature	Ceph. Ind.	Nasal Ind.
61 Lebedins ♂	1626	80.1	75.9
87 Tubalars ♂	1654	82.7	80.7
28 Telengets ♂	1631	86.2	76.6

The averages of this last group are in admirable concord with the averages which I have assigned to *H. asiaticus centralis* in Summary I. For the first group there is instead a choice between the two varieties *alticus* and *tibeticus*, in whose averages we find those of the Lebedins, but considering the geographical criterion—i.e., from the fact that we know the habitat of the Lebedins—the precise indication must be to assign

HILDÉN (K.), *Anthropologische Untersuchungen über die eingeborenen des Russischen Altai*. "Fennia" 42, N. 2, Helsinki, 1920.

them to the variety *altaicus*. Lastly, the Tubalars give averages which show a mixture between *altaicus* and *centralis*, as the stature and the nasal index are somewhat higher than those general to the first and the ceph. index is somewhat lower than that we give for the second, in agreement with the geographical position of the Tubalars, which is intermediate between the Lebedins and the Telengets. We have thus given an example of our method of using these three physical characteristics in the systematic scheme.





## II

The Asiatic Leucoderms, according to our scheme of classification already published,<sup>1</sup> belong either to *Homo indoeuropæus dolichomorphus* or to *Homo indoeuropæus brachymorphus*, two varieties of *H. indoeuropæus*, or *H. occidentalis*, that are met with also in Europe.

The *Dolichomorphus Whites*, one may follow up more or less clearly from the Mediterranean up to Cashghar and to India, but with great variations in stature and appreciable variations also in the ceph. ind. according to Biasutti's map V. It is doubtful whether they are all related to the Mediterraneans, or whether there are representatives of the Nordics with fair hair and light blue eyes. Both the branches having proceeded from the anthropogenic centre of N. W. Asia, the initial difference between them must have been very slight or none at all, and it is reasonable to think that those who came last have better conserved the leucodermic characters. The last comers are the Iranians, whose arrival in their present habitat may be referred to about the middle of the 9th century B.C. : to them von Luschan assigns the Curds, seen by him, who have elongated crania, fine hair and light blue eyes.<sup>2</sup> On the other hand, these last two peculiarities were not observed in the Curds by Chantre.<sup>3</sup>

The *Brachymorphus Whites* are found in various areas of anterior Asia intermixed with the Dolichomorphus,

<sup>1</sup> GIUFFRIDA-RUGGERI (V.), *Schema di classificazione degli Etnici attuali* "Arch. per l'Antrop. e l'Etnol.," XLII, 1912, fasc. 1, p. 141, and also *l'Uomo attuale*, op. cit., p. 156.

<sup>2</sup> VON LUSCHAN (F.), *The Early Inhabitants of Western Asia*. "Journ. R. Anthropol. Inst.," XLI, 1911, p. 296. He adds that they speak an Aryan Language allied to Modern Persian.

<sup>3</sup> CHANTRE (E.), op. cit., pp. 104-105, 242.—See also by the same author: *Recherches anthropologiques sur le Caucase*, T. IV, *Populations actuelles*. Paris—Lyon, 1887, p. 269.

producing numerous peoples who are unclassified, not for ignorance of their anthropological constitution, but because of the impossibility of assigning to them any single collocation. Thus there are certain Kurdish tribes who do not show the dolichomorphic type, but the brachymorphic: such are specially the Kurds of Transcaucasia in Russian Armenia.<sup>1</sup> The contrast repeats itself also among the Yesidi of Mesopotamia, who according to Goroschtschewski<sup>2</sup> are mesaticephalous, while von Luschan has seen other settlements of these resembling the Kyzilbash of the northern Mesopotamia, who are hyper-brachycephalous. The fact stands that the Kurds measured by Pittard are quite different from those of von Luschan, being strongly brachycephalic and never having fine hair and light blue eyes; Pittard also writes about them: "For us the true Kurds and the true Armenians appear to be of the same ethnic group,"<sup>3</sup> that is to say, the group of the brachycephals of high stature. Evidently these are not the true Kurds for von Luschan, and it is difficult to say why they must be "the true" ones: we are rather inclined to hold that the true ones, that is, the original people who came down from the north are the dolichocephals, who are also less pigmented.

To the Armenians and brachycephalic Kurds Pittard adds the Lasi, of the South-eastern littoral of the Black Sea, who according to his opinion must be put outside

<sup>1</sup> This may be due to their intercrossing with the Armenians and also to cranial deformation; Chance had occasion to measure 12 Kurds in the environs of Erzurum, and he says that 8 of them having a cranial deformation gave 84.02 as cephalic index, while four non-deformed gave only 81.8 (*Recherches anthropologiques sur le Caucase*, T. IV, cit., p. 262).

<sup>2</sup> Cf. IVANOVSKI (A. A.), *Die Jesiden*, "Arch. f. Anthrop. N.F." IV, 1902, p. 506 (recessita).

<sup>3</sup> PITTARD (E.), *Anthropologie de la Roumanie. Contribution à l'étude anthropologique des populations sporadiques de la Dobroudja: Les Arméniens*. "Bull. Soc. Roum. des Sciences," XXI, n. 5, p. 206, Bucharest, 1912.

the Kartvelian and Georgian group.<sup>1</sup> This decision appears to us perfectly logical: the affinity between the Armenians, the brachicephalic Kurds, the Lasi, the Aissori,—perhaps also the Bektaszi of Licia and the Kyzilbasch of Mesopotamia—is much greater than that between them and the Georgians; the first are all brachicephalous and in stature lower than the average, so that it appears reasonable that they should be collocated in a sub-variety as will be seen in our Table IV.

With the first, one may consider related, some of the populations of Syria: the Metnals of Lebanon, the Ansari of Antioch;—Chantre<sup>2</sup> shows both of them as related to the Kurds, and this may be accepted perhaps as referring to the brachycephalic Kurds. According to von Luschan here are to be added also the Druses, the Maronits, and also those Semites who present the Armenoid type, about whom, notably among the Kyzilbasch, he disclaims absolutely any artificial influence.<sup>3</sup> The flat occipital form, in which the occiput comes straight down is accompanied by a rather high cranium. Pittard, although he denies that deformation has influence on the ceph. ind., since the deformation is not identical in all cases, nevertheless admits that it is there, and affirms that it consists principally “of a fronto-occipital compression making the parietal and the superior occipital region project more or less.”<sup>4</sup> Chantre also is very explicit about the influence, as he admits, of infantile deformation, with regard to the Aissori,<sup>5</sup> the Lasi,<sup>6</sup> and the Aderbaijani, etc.,<sup>7</sup> as follows

<sup>1</sup> PITTARD (E.), *Anthropologie de la Roumanie, etc., Les Lazes* “Bull. Soc. Roum. des Etudes” XIX, n. 5, pp. 918, 936, Bucharest, 1910.

<sup>2</sup> CHANTRE (E.), *Recherches anthropologiques dans l'Asie occidentale*, loc. cit., p. 168.

<sup>3</sup> VON LUSCHAN (F.), loc. cit., p. 238.

<sup>4</sup> PITTARD (E.), *Anthropologie de la Roumanie, etc., Les Lazes*, loc. cit., p. 910.

<sup>5</sup> CHANTRE (E.), *Recherches anthropologiques dans l'Asie occidentale*, loc. cit., p. 324.

<sup>6</sup> CHANTRE (E.), *Recherches anthropologiques sur le Caucase*, T. IV, cit., p. 91.

<sup>7</sup> *Ibid.*, p. 248.

also from the description of the cradle in use in Asia Minor where he says: "The infant being attached solidly; is laid upon its back and the nape of its neck does not take long to be flattened."<sup>1</sup> The deformed Crania we have referred to elsewhere.

However this may be, it is certain that among the Galchas and the Tajiks there prevails a different cranial form, that is platy-cephaly, and therefore we can infer the existence of a local sub-variety, *pamiriensis*. There are always, as characters of the *armeno-pamiriensis* variety, strong brachycephalism and a stature higher than the average. On the other hand the variety *georgianus*—shows slight brachicephalism and about medium stature, perhaps also a more pronounced leptorrhiny.

The Brachymorphus White can be followed East as far as the basin of the Tarim: in fact among the people of Cashghar there prevails a brachycephalic element which is not Mongolian, as we find from the notes that have been so diligently registered by the Englishman, Stein, in two journeys of exploration (1900-1901 and 1906-1908), in which he measured about 600 individuals. Joyce,<sup>2</sup> who has published a considerable portion of the

<sup>1</sup> *Ibid.*, pp. 41-42. This custom seems to have originated in Central Asia as will appear from a comparison of the practice of the Kirghizi, according to a description by URVILLE (*Les Arvens au nord d'ou et de l'Indus-Jaxak*, Paris, 1896, p. 207) "the Kirghiz women place their babies at the breast on a small board and attach them to it in such a way that the back of their head gets flattened by pressure." It is important to note that the Chinese traveller Hsuen-Tsang who visited Central Asia in 648, found the same custom prevalent towards the frontier of India and mentions it in two places: cf. URVILLE (Ch. 66), *Mémoire sur les Huns blancs*, "L' Anthrop.", 1898, n. 2-4, pp. 271, 276. A characteristic retreating forehead seems to me observable in the Hittites and to be prisoners of Rameses III, and I consider them to have deformed crania, thus constituting the most ancient documents of cranial deformation: see the fig. in MEYER (Mon. W.), *Asia and Europe*, pp. 368, 371.

<sup>2</sup> JOYCE (E. A.), *Notes on the Physical Anthropology of Chinese Turkestan and the Pamirs*, "Journ. R. Anthropol. Inst." XLII, 1912, pp. 487-468; see also by the same

data collected by Stein, gives specially the Wakhi<sup>1</sup> as a pure element—but more or less present in the majority of these peoples—closely related to the Galchas; therefore the Wakhi are collocated in Table IV beside the Galchas and the Tajiks: their stature is intermediate between the two. For the ceph. ind. (Table V) we must take note of the fact that Joyce affirms the existence of artificial deformation. Naturally many of these tribes are of mixed Leucodermic and Xanthodermic elements, and therefore we have omitted them, mentioning only a few among the "unclassified," a few of the *H. Asiricus* and a few of *H. Indoeuropæus*. The subvariety *pamiricus* is really related to the so-called *H. Alpinus*, to the Savoyards, etc., which fact has been misunderstood because of the idea that all of them were Mongoloids.<sup>2</sup> This is so far from the truth, that it is enough to say that they want all those characters that we have previously described as belonging to *H. Asiaticus*.

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author: *On the Physical Anthropology of the Races of Khotan and Keriya*. *Ibid.* XXXIII, 1909, p. 312. The last one contains the data utilized by Ivanovsky; those of 1912 appear in part in my tables.

<sup>1</sup> We must show respect to the anthropological insight of Ujfalvy who made the same diagnosis about the inhabitants of Wakhan 40 years ago. In Vol. II, p. 156, of the *Expédition scientifique Française en Russie en Sibirie et dans le Turkestan*, he writes that the Sarikola of the Eastern slope of the Pamir represent the pure remnants of this same white type that "has exercised a decisive influence on the formation of the Kachgharians and the Tarmatoli of the present day." While the Kachgharians do not now-a-days show any blonde element (*op. cit.*, Vol. III, p. 48) yet we have the blondes among the natives of Shirvan; this is to be placed in connection with the description given in the Chinese Annals of the inhabitants of Lake Lob, the Uzun, who had blonde hair and blue eyes (*op. cit.*, Vol. I, p. 159). It is very probable that at that time also only a minority of the white had such prominent characters as the depigmentation, which attracted so strongly the attention of all the brown peoples: cf. DE USZALY (Ch.), *Les Arpes*, etc., *op. cit.*, p. 26, note 1.

<sup>2</sup> This preconceived idea is the thesis so strongly upheld by Sagar (G.), *On Aris fa Europe e in Asia*, Turin, 1909, pp. 128, 133, against the theory of Ujfalvy who did not at all think that the Savoyards are Mongoloids. Notwithstanding the insistence of Sergi it is a theory completely rejected: cf. MARCOSS COMAÇA (A. A.), *Estudos de Etnologia Portuguesa (ordem taxonomica)*. "Anais Scient. Fac. Med." Oporto, IV, 1915, n. 2, p. 67 of the extract; cf. also HANDBY (A. C.), *The Wanderings of Peoples*, Cambridge, 1911, p. 27.

We are thus arrived near to that region called Zungaria, which makes us think of the question of the origin of the Leucoderms, since we have already said that probably it bordered as much upon the anthropogenetic centre of the Leucoderms, as upon that of the Xanthoderms, according to our hypothesis of the plurality of the centres of differentiation in species and sub-species, *i.e.*, specific late centres. The first centre we have located in the N. W. of Asia, and we are inclined to believe that it originally was constituted of dolicho-mesaticephals, like the original yellow stock (it may then hardly be maintained that this skeletal character can ever have a great discriminative value!); this is in agreement with the skulls excavated in Turkestan mentioned above, and also with the fact that the earliest population of Siberia was made up of dolichocephals with European faces<sup>1</sup> as can be seen from the prehistoric crania found in the sepulchres of the upper valley of the Yenissei. We hold instead that the brachycephals with European faces are a variety of the more ancient branch, the above mentioned dolicho-mesaticephalic people, who settled by preference in a mountainous habitat.

Having stated this it is not without some interest to refer to what Ujfalvy says of the inhabitants of Zungaria: "It appears to me proved that the Dunganis are a special people, of non-Chinese origin, and that in their composition have entered, without doubt, some elements that are neither Mongolian nor Altaic."<sup>2</sup> Although the Dunganis have all of them hairless skin and a scanty beard, 'an unknown element must have ruled the formation of their type': the explanation given by Ujfalvy is that these

<sup>1</sup> DEGENER (J.), *op. cit.*, p. 424.

<sup>2</sup> DR. UJFALVY (Ch.), *Les Kirghisiers, Trouvailles de Dzungarie*. "Rev. d'Anthrop." II serie, T. II, 1879, p. 405.

'aborigines of Central Asia,' "are the descendants of the Sakas, the Yuechis, the Hiungous and of the Uigurs, grafted upon the elements of a white autochthonous race."<sup>1</sup> A white autochthonous race of Central Asia implies the existence geographically near that region of an ancient leucodermic centre, as I have established on other grounds, and this coincidence can certainly not displease me, in as much as I am far from believing in the theories of those who specify Africa as the original seat of the white people.

Ujfalvy does not say whether this primitive race, before the yellow people were grafted on to them, was dolichocephalic or brachycephalic, but probably he was of our opinion favorable to the original dolichocephalic one, since a small series of 8 Dunganis measured by him gave him the following ceph. ind. 74.85, 78.83; 79.0, 79.0, 79.89, 82.9, 84.49, 85.69, while in 8 Manchus he had all the ceph. indices above 80. In making this comparison he evidently wishes to suggest to the reader the improbability that the autochthonous people also had been brachycephalic, since in such a case we would not have among the present Dunganis a majority of dolicho-mesaticephals.

In conclusion, this part of Asia, which ordinarily is given as the common seat of racial crosses, has perhaps an anthropological importance which is unsuspected by the vulgarisers of a certain simple system, and was acutely perceived by Ujfalvy alone. We persist in believing that the Leucoderms have migrated from the N. W. Asia, the last of whom the linguists divide into Eastern Aryans and Western Aryans. These last having gone farther from the original centre must have been the first to depart, and their exodus ended about the year 1800

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<sup>1</sup> *Ibid.*, p. 480.

B.C., at which epoch the Hittites, arrived in Asia Minor,<sup>1</sup> and probably had something to do with the complicated ethnical constitution of the modern Kurds and Yesidi, "the last unconscious followers of the cult of Zoroaster."<sup>2</sup> Close affinities of a cultural nature have been found between the Hittites and the most ancient civilizations of Turkestan.<sup>3</sup> The language of the Hittites, which at last scholars have succeeded in reading, has turned out to be Aryan and is related to Tokhari of Turkestan: a most important fact is that it probably forms the bridge<sup>4</sup> between the Western European idioms and Tokhari.<sup>5</sup> The period of the migration of the Western Aryans being ended, there followed that of the Eastern Aryans, which, for Asia Minor, commences perhaps with the Mitanni (circa 1600 B. C.) and ends with the Iranians (850 B. C.); this then explains how the Kurds linguistically are Iranians, without prejudice to an anthropological inheritance still more ancient, but not essentially diverse, since anthropology places the origin in the case of the Hittites, as well as of the Iranians, at a northern Asiatic centre, as we shall show later.

The special position of the Tokhari, we believe, cannot be explained unless one admits a series of successive

<sup>1</sup> This is the date usually given, but on the cuneiform tablets the Hittites are already mentioned in the XXIII century B.C., cf. COHENAT (G.), *Les Hittites, l'Orient et la Grèce*, "Rev. d'Assyriologie," XVI, 1909, pp. 97-108; and also AUREAN (G.), "Phœnicisme?" *Essai de contribution à l'histoire antique de la Méditerranée*, Paris, 1920, p. 85.

<sup>2</sup> CHANTRE (E.), *Recherches anthropologiques dans l'Asie Occidentale*, loc. cit., p. 98.

<sup>3</sup> GINSBURG (H.), *The Land of the Hittites*, London, 1910, p. 320.

<sup>4</sup> COHENAT (Fr.), *La Langue des Hittites*, "Compt.-rend. de l'Acad. des Inscriptions et Bell.-Lett." Mars-Sept., 1907.

<sup>5</sup> Tokhari is said to be akin to the Western languages particularly to Italic, according to S. Levi ("Notes, R. Asiatic Society," 1914, p. 959).



waves, every one of which we suppose departed on its own account from Central Asia, according to the following scheme of arrangement which commences with those most ancient and hypothetical and ends with those which are the most recent and proto-historic :

- (a) Primordial Leucoderms (Cro-Magnon ?),
- (b) Proto-Aryan Leucoderms (proceeded to the plains of Eastern Europe)
- (c) Western Aryan Leucoderms (Italo-Celtics),
- (d) Aryan Leucoderms of the Desert of Takla-Makan (Language Tokhari)
- (e) Aryan Leucoderms of Asia Minor (Hittites ? then Mitanni)
- (f) Aryan Leucoderms of Iran and India.

One can no longer admit the old theory of the push *from behind*, of one legion following another, since in that case it would be incomprehensible how the Tokhari-speaking peoples of the basin of the Tarim could be found among the Italo-Celtics and the Hittites. Adopting instead the image of a centre of pulsation, which sent ethnic waves now in one direction now in another, the contiguity in space is no longer indispensable for explaining the contiguity of language. Anthropology has nothing that goes against, rather it comes to the support of the linguistic evidence, in view of the fact that the presence of the European face has been established among the present brachycephals of the Pamir and in the natives still remaining in the desert of Takla-Makan. Moreover, it is an established fact that here and there in Central Asia, one finds blondes, for which we have the authoritative testimony of Ujfalvy. "All the Iranians have chestnut hair, but one meets with blondes among them, more among the Tajiks of the plain than among

the Galchas. While in the last-mentioned tribe the blondes are 8 per cent. of the population, among the Tajiks of Fergannah we meet with 12 to 13 per cent. and in those of Samarkand up to 27 per cent."<sup>1</sup> These are the same proportions as are met with here and there in Europe, and this is natural, since Leucodermic Asia offers the same anthropological composition as Europe.

Looking at these things without prejudice one may add, that Leucodermic Asia is predominantly—and perhaps it was more so in ancient times than now—Aryan like Europe. As regards the question whether the blondes have had something to do with the Aryan language, we believe that it was so only as Nordic representatives. Evidently it is necessary to discard the thesis that depigmentation is connected with altitude, in view of the fact that Ujfalvy has been able to establish it as a fact that in the Iranians the blondism of hair diminishes with the altitude, as will be seen from the figures cited above, as also from what he writes:—"There is the same progressive variation on account of the altitude in the case of the beard. The Tajiks of Samarkand have 38% of blonde beard, those of Fergannah 36%, the Galchas taken all together 15% and the 43 Galchas of the high valleys of Zerakshan and of its affluents only 13%." Besides, it seems that the blonde Galchas have been specially sought for by Ujfalvy<sup>2</sup>; consequently the percentage must be still lower, and it seems it diminishes going towards the south: in Chitral blondism has few representatives (a few blondes were seen by Bonvalot), and in India it may be said that it is almost entirely absent.

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DR UJFALVY (UH.), *Résultats anthropologiques d'un voyage en Asie centrale*, Paris, 1880, and in other places.

<sup>2</sup> DR UJFALVY (UH.), *Les Aryens*, etc., op. cit. p. 385.

The fact that the Aryan language has come to the country does not take from the view that the Indian Peninsula makes up an extreme area of the leucodermic penetration, an area that is comparable with that of anterior Asia, which we have considered when speaking of the Kurds and of their probable ancestors (in part), the Hittites. The dependence of both the areas on a common centre has become evident, after the great discovery of the treaty of peace of Boghaz-Keui, between the Mitanni king called Matiuaza and the Hittite king Subbiluliuma, where among the gods invoked by the first appear the well known Vedic names of Varuna, Indra, etc. This confirms that the Aryan religion had been elaborated in the far north; from the north it had been carried into the south of Asia, not by missionaries but by such migratory waves as we have arranged in the form of a systematic scheme.

Chanda draws two conclusions from it. The first is a highly justifiable conclusion: "There are strong evidences to show that in the sixteenth and the fifteenth centuries B.C., in Syria and upper Mesopotamia, there were several colonies of men of Aryan speech, some of whom at least worshipped Vedic gods."<sup>1</sup> Less justified is the other conclusion that the Aryans have passed through Syria and Mesopotamia, absorbing "a good deal of Semitic blood,"<sup>2</sup> before they reached India.<sup>3</sup> We believe instead that the Aryans reached Iran directly from the north<sup>4</sup> and afterwards pursued two diverging paths, one towards the west, and the other towards the east. The

<sup>1</sup> Chanda (Ramprasad), *The Indo-Aryan Races*, Part I, Rajshahi, 1910, p. 29

<sup>2</sup> *Ibid.*, p. 33.

<sup>3</sup> From *Aryana-Varya*, a subarctic region to the north of Segdiana, with ten months of winter (which explains the origin of the cult of fire), and two of summer, but always in a better condition of habitability than at present: Cf. Maxmüller (A. S. D.), *Iranian Migration before History*, "Scientia," Vol. XIX, 1913, n. XLVI-g.

branch which went towards the west, more probably than the other, must have absorbed Proto-semitic populations.<sup>1</sup>

To the branch pushing towards the west we assign the Mitanni, probably related to the Hittites, according to Charles, who holds the Mitanni to be a Hittite people,<sup>2</sup> but the Hittites must have chronologically preceded them. The opinion of Söderblom, seems to us absolutely fantastic: he believes that the Hittites came from the coast of the Baltic, which coincides with Moulton's opinion<sup>3</sup> that the Aryans came to India across Russia. The crossing of the Caucasus by the Hindus towards 1700 B. C. is accepted also by Hüsing in accordance with the theory of the European origin of the Aryans, which does not appear to us now any more convincing.<sup>4</sup> We prefer the hypothesis of the bifurcation in Iran.

At the centre remained the ancestors (pro parte) of the present Tajiks, of whom Khanikoff speaks as "the aborigines of the Persian race, who have been able to preserve their language and some traces of an ancient civilisation."<sup>5</sup> We have already seen that the Tajiks present the highest percentage of blondes in the whole of Asia. We add that the Nordic representatives in western Turkestan also appear far from the area of their origin: this distance serves to explain a fact noted by Ujfalvy, namely, that

<sup>1</sup> The Jews were vassals or mercenaries in the service of the Hittites, according to GILG (*The Empire of Assurites*, New Haven, 1919), who believes that the Arab nations came originally from the North like the other Whites. The most ancient of these nations was already on the Middle Euphrates in the IV millennium B. C.

<sup>2</sup> *Encyclopædia of Religion and Ethics*, VI, 723b.

<sup>3</sup> MOULTON (*J. H.*), *Early Zoroastrianism*, p. 5.

<sup>4</sup> The Asiatic origin of the Aryans has returned manifestly in France, since it has been held by E. Maxon (*Zeitschr. f. vgl. Sprachwiss.* XIII, p. 16) that the Aryans remained in the region east of the Aral and Caspian until about 2000 B. C., and after that time began to make their way eastwards into India and south-westwards.

<sup>5</sup> KHAŃIKOFF, *Mémoires sur l'Ethnographie de la Perse*, Paris, 1893, pp. 86, 88.

"the blonde types among the Iranians are as brachycephalic as the chestnut-coloured and brown types."<sup>1</sup> This same fact is seen equally in Central Europe.

The branch that went towards the East and proceeded into India, being obliged to pass across the regions already inhabited by tribes related to the Mediterraneans and perhaps also, as we believe, by tribes akin to the Dravidians, appears anthropologically to have been very brown dolichocephals. But from what I have expounded it is evident, that it is useless and vain to ask, who were the Aryans, the Dolichocephals or the Brachycephals? The Aryan languages spread from a very northern centre, and that without any special regard for the brachycephals or the dolichocephals: this is our opinion, as can be inferred from what I have expounded above. It is clearly contrary to the theory of Sergi,<sup>2</sup> who calls the brachycephals round about Pamir "Mongoloids speaking Aryan," and assigns to them the task of Aryanising Europe. If they were of Mongolian origin there would not be any reason why in the centre of Asia, in the basin of the Tarim, they should be of European features. The only logical conclusion is that they are not Mongoloids. We also repeat what already Uffalry had to conclude from his own observation: "We see once again that we have here a white race which is highly brachycephalic."<sup>3</sup>

Leaving aside this preliminary so-called Aryan question—which it seems must remain an eternal riddle to be solved by extravagant inventions for personal amusement—we bring together, as we have done for the Xanthoderms, the anthropometric characters of the Asiatic Leucoderms. These are collected from Tables IV, V, VI: only I have

<sup>1</sup> DE GREAVY (Ch.), *Expédition scientifique, etc.*, Vol. 11, p. 12.

<sup>2</sup> SERGI (G.), *GIS Ariz*, etc., *op. cit.*, p. 236. Cf. also pp. 132-133, 151-154, 266.

<sup>3</sup> DE GREAVY (Ch.), *Expédition Scientifique, etc.*, *op. cit.*, Vol. 11, p. 161.

excluded the stature of 14 Hebrews of Palestine which is too low, probably because of the smallness of the series. We have the following synopsis :

## SUMMARY II.

*Anthropometric Characters of the Asiatic Leucoderms.*

R. Indo-Euro- peans.	Dolicho- morphus.	European Variety <sup>1</sup>			
		Asiatic Variety :	Stature	Ceph. Ind.	Nas. Ind.
		Indo-Afghanic	1610-1684	713-775	664-741
		Indo-Iranic	1642-1680	670-824	675-743
	Trans-Mediterranean	1663-1746	702-798	680-700	
	Brachy- morphus.	European Variety <sup>1</sup>			
Asiatic Variety :					
Amuro-Pamiric		1660-1707	641-695	626-720	
Georgianic		1648-1658	625-642	576-645	

First of all we have to explain the rise in the ceph. ind. which is found in the *Indo-Iranian* variety, a rise that seems a little in contradiction to the systematic position of this variety. Analogous to what we see in Tuscany, where besides the brachycephals and the dolichocephals there exists a most remarkable proportion of a middle type—perhaps a product of convergence from intermixtures for thousands of years of the other two—similarly also in Iran and in Beluchistan (*cf.* Table VI) we have a type which by a little extension we may continue to assign to *H. Indo-europæus dolicho-morphus*, but which in reality is on the border line between mesaticephals and brachycephals, sometimes more inclined towards the latter than the former. To save ourselves from the blame of reasoning upon averages, we say that many Pamirian brachycephals ought to be recognised individually, exactly as in

<sup>1</sup> Not considered here. *H. Indo-europæus* has no linguistic significance but rather that of *H. albus* or *H. occidentalis*.

the case of many dolichocephals of the Indo-Afghan type; but it is not possible for us to make this discrimination in the averages, and as we hold it probable that in reality there is a large proportion of the intermediate type, thus—until proved to the contrary—we can indicate this fact as another result of convergence by intercrossing, comparable to what we have in Tuscany, where the percentage of the dolichocephals and the brachycephals, Alpine type or other, is much reduced thereby. According to our idea, the Indo-Iranian variety should have also the ellipsoid, ovoid and pentagonoid forms as we have in *H. Indoeuropæus dolichomorphaus*, but broadened, thus reaching eventually also the initial point of brachycephalism. This broadening of the elongated forms I have always observed in the areas of intense miscegenation between the dolichomesaticephals and brachycephals, and I have no difficulty, theoretical or preventive, against such possibility in Persia and in Beluchistan: perhaps it is only an elimination of the extreme forms, which become more rare.

I do not deny in any way that the Mongolian brachycephals came to this part of Asia and that they are still represented there (if there are also so many in European Russia!), but these are easily recognisable by other characters, that is to say, by the characters of *H. asiaticus*. As a matter of fact, the Hazaras of Afghanistan, of whom 200 gave as stature 1654 mm., ceph. ind. 85.0, nas. ind. 80.5, have not only the character of brachycephalism (which in itself is so little Mongolian!), but also that of mesorrhiny, and the lowest orbito-nasal index (111.2) among all the population of the so-called (erroneously) Turko-Iranian type<sup>1</sup>; they have frequently oblique eyes or eyes with the characteristic Mongolian fold, the absence of hairiness and all the other signs of the Mongolian

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<sup>1</sup> Cf. RIZZY (H. B.), *op. cit.* p. 366.

stock.<sup>1</sup> The anthropometric characters show their relationship with the Carakirghizi and also with some of the tribes of Cashghar, that is to say, with the Loplik in stature and with the Cheria in the ceph. ind. and nas. index, but specially with the Turfan Taranchi who have been measured by Stein (Joyce), and whom I have assigned to *H. asiaticus centralis*. So I did the same in the case of the Hazaras, as soon as the nasal index warned me that I was not dealing with Leucoderms, but with an extreme offspring of the Mongolian race, and in examining the descriptive characteristics I found my opinion confirmed. But how can we assign the Ohuttas and the Bandijas of Beluchistan to the Mongoloids only because they present a strong degree of brachycephalism, while they have a nas. index of 58.6 and 59.9 respectively and an orbitonasal index of 124.3 and 122.6 respectively? Allowing that the colour of the skin is of no account, do we wish also to leave aside the facial characteristics, which involve also the morphology of the skeleton of the face? Certainly one may reject everything that is disturbing, but one must not pretend that the result, thus "selected," is an objective classification and much less that it is naturalistic: and to be proud of it seems to me absolutely ingenuous as nothing indeed is easier.

We do not wish to pass over in silence the fact that it has been said to satiety by Sergi that in this part of the globe we have to do with a mixed variety or species, but to accept such a diagnosis would be equivalent to accepting the Sergian classification, which considers all the

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<sup>1</sup> See the physical description in SAINT MARTIN (V. de), *Nouveaux Dictionnaire de Géographie*, Vol. II, Paris, 1894, p. 655. It shows that the Hazaras are pastoral Mongols established in the western parts of Afghanistan for many centuries, as they are mentioned as living there in the year 1265 by Abul Fozl, who notes that 75 years before Khurasan had been abandoned by its inhabitants, hence the ethnic change may be thrown back to 1188.



brachycephals as Mongolians or Mongoloids<sup>1</sup>, whatever other characters they may possess in all the rest of their body and in whatever parts of Europe or of Asia they may be found<sup>2</sup>. In the same way that De Lapouge said that with a little of the yellow tint France would be a country of true Mongolians<sup>3</sup>, so the Sergian craniological simplicity would conduct us to the same result that is manifestly the most one-sided conclusion and only founded upon a simple premise. Quite different are the results which one arrives at whenever one does not accept with closed eyes the very simple criterion that brachycephalism always marks out a Mongoloid, which is equivalent to saying—and it does not matter that this is not declared in an explicit fashion, seeing in fact that there is no other systematic criterion—that this sole character is sufficient to settle the question of races. We—and with us almost all anthropologists—prefer the definition of Pittard, one of the few who have travelled to study the human races *in situ* and have found themselves faced by the reality, which is so very different from mere verbal creations. "A human race is not characterised with the aid of a single morphological definition. It is the association of several characters, found among all the individuals of the same group, that determines the race."<sup>4</sup> Practically,

<sup>1</sup> Sauer (G.), *Europe*, op. cit., p. 341. "Although of hybrid origin these Euro-Asians are Mongoloids."—This is the conclusion to which above all he attains. A few pages afterwards the same author adds: "A species derived from *Homo Aeluticus* in its skeletal characters."

<sup>2</sup> He excludes America, which is inconceivable, if this skeletal character should have such a preponderating discriminative value; but in reality it is not a skeletal character that has any specific (or eventually, 'generic') value when not accompanied by other concomitant characters, and this is the reason why the Sergian system rests condemned. Cf. with regard to the absence of such concomitant characters, GIUFFRIDA-RUGGERI (V.), *I caratteri craniologici degli Indonesiani*, "Arch. per l'Anthrop. e l'Etnol.," XLVI, pp. 143-150.

<sup>3</sup> DE LAPOUGE (V.), *Race et milieu social*. Paris, 1900, p. 70.

<sup>4</sup> PITTARD (E.), *Les essences anthropologiques principales des populations balkaniques*. "Le Globe," T. 56, Montréal-Genève, 1917, p. 88. Pittard notes, for

all the results of Summary II, which are obtained from the measurements taken upon many thousands of individuals (the number of the persons examined can be seen in the Tables), compared to those obtained on a number still more imposing of Xanthoderms (Summary I), show that the principal difference resides in the diversity of the nasal index. The difference may be seen from the fact that in the nasal index of the Leucoderms the average does never go up to 75, whereas in the Xanthoderms it almost never goes down below 70, which is evidently due to the greater nasal width of the yellow race. This difference is so precise that Pittard gives it among the diagnostic signs for distinguishing the Mongoloids from those that are not so in anterior Asia<sup>1</sup>; it serves us moreover to make the anthropological comparison between the yellow and the white. An important difference may be seen also in the stature, which in the Leucoderms of Asia, always of course in the average, never goes down below 1610 mm., while in the Xanthoderms it goes down so far as 1540; in the upper limit, however, there is no difference, so that one may say that this character has a greater range among the yellow people than among the white. The difference in the ceph. ind. is less marked, because we have in the yellow as well as in the white as many of the dolicho-morphic variety as of the (later) brachy-morphic variety; the first, however, are rather mesaticephalic in the Xanthoderms, so that the ceph. ind. does not go down, on an average, below 75.9, while in the Leucoderms the minimum in the

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example, that the Kurds, the Lual and the Armenians have no relationship with the Yakuts, although they are equally brachycephalic; this absence of affinity follows from the other anthropological characters, which are held therefore in greater account than the ceph. ind. itself, when one proceeds to the classification of larger human groups.

<sup>1</sup> 1867, p. 74.

series, that is to say, the lowest average, is 71.3. The aboriginal skull did not show any morphological differences between those who should become white and those who should acquire the yellowish tint.

Let us here briefly note that craniological studies when made without preconception lead to the same results. Thus Reicher came to the conclusion that the cerebral skull shows a great similarity between Alpine brachycephals and Mongolian brachycephals, whilst their facial skull shows great differences.<sup>1</sup> He adds that from his inquiries he does not find that the facial skeleton is to be held more variable than the cerebral skeleton; thus one may believe that the acquisition of brachycephalism took place in the two races (whether they are varieties or species) in an independent way from either similar or diverse influences, which had the same result. In fact it would be more difficult to explain why, having aboriginally the same brachycephalic shape of cerebral skull—which is after all only an envelope!—there have taken place so many skeletal (facial), tegumentary and other differences. But we must here limit ourselves to the anthropometric characters, to which we must return.

If we take into consideration the unclassified ethnic groups, which are added to the various tables, we find it confirmed from Tables I and IV that stature has as its lower limit a figure which is much less (1583) in the Xanthoderms than in the Leucoderms (1624) and that it reaches the same higher limit (1700) in both. From Tables II and V we find that the unclassified Xanthoderms are arranged by the ceph. ind. half among the mesaticephals and half among the brachycephals, and almost the same thing is met with among the Leucoderms. Lastly, in

<sup>1</sup> Reicher (M.), Untersuchungen über die Schädelform der alpenländischen und mongolischer Brachycephalen. II. Vergleich der alpenländischer brachycephaler Schädel mit den mongolischen. "Zeitschr. f. Morph. u. Anthropol." Bd. XVI, p. 64.

tables III and VI—leaving aside the Duguni, as it is difficult for me to believe that they really have a nasal index of 56.12—almost all the unclassified Xanthoderm groups have the nasal index above 70, and it goes up to 94.3, while among the unclassified Leucoderms only a half have the nas. ind. higher than 70, reaching up hardly to a maximum of 76. The way in which I have arranged the averages collected from the literature, facilitates comparison between the two species that people almost the whole of the Asiatic continent, and show us also the differential characters, as for example those of the *Georgian* variety, which is prominent among the leucodermic varieties, being the lowest in stature and the most leptorrhine.<sup>1</sup>

The isolation of this variety is a new result in the anthropological camp, but I hope that it will be welcome, thanks to the determination made by me. It must be added that it finds a parallel in the linguistic science, which distinguishes a group of Caucasian languages detaching them from the Aryan (Indo-Germanic) stock and among such Caucasian dialects is found precisely the Georgian.<sup>2</sup> Evidently it is not intended to say that the anthropologic area (we do not know yet how wide it is) and the linguistic one are coincident. Less still are we able to discover how far these two areas extended in pre-historic times, if in fact the Hittite language should be Caucasian, as Hüsing believes,<sup>3</sup> and if even the Chaldeans are to be counted among the Caucasian linguistically.

<sup>1</sup> The results of the study that was being made on the prisoners of war from the Caucasus by Prof. Pech at the initiative—fortunately seconded by the authority—of the Academy of Science and of the Anthropological Society of Vienna, are not yet published in detail.

<sup>2</sup> FRENK (F. S.), *Die Sprachfamilien der Erdkrasse*, Leipzig, 1909, p. 36.

<sup>3</sup> HÜSING (G.), *Führerführer in Iran*, "Mittell. Anthropol. Gesellsch." Wien, 40, 1915, p. 224. According to Hüsing the Hittite language of the inscription of Boghaz Keui must be Indo-European, on the other hand, Prof. A. H. SAYCE writes me (Nov. 30, 1919) that it is not, but contains only a large, borrowed,

What one can concede is that the "Caucasic" stratum is anterior to the Aryan, since practically its distribution in space is so reduced as to make it possible to consider it as nothing but residual. Chronologically we have no difficulty in pushing it up to 2700 B.C. as Hüsing would have it.<sup>1</sup>




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Indo-European element, which is Sanskritic, which confirms that a "Vedic" tribe was in Asia Minor at that time. By Dr. Cowley is also maintained that "the language of the scribes" of the Hittite Empire was a "mixed language"; cf. Cowley (A.B.), *The Hittites*, Oxford, 1920.

<sup>1</sup> *Ibid.*, p. 243.

## III

In Leucodermic India the anthropological composition is not the same everywhere. The strongest dolichocephalism is found in the true Aryan region, properly called *Aryandom* (which seems to be the Vedic group: the Panjab, Rajputana and the United Provinces), called also the Midland, as distinguished from the other regions called "Outer Countries." In all the castes of the provinces that now represent the above-mentioned *Aryandom*, and also among the Maithil Brahmins of Bihar, the dolichocephals prevail, there being only 25% of the mesaticephals and 1.5% of the brachycephals among living subjects, which again is reduced to zero in the skeleton. *Vice versa*, in the most typical castes of the outer zone, with the exception of Bihar, we have a prevalence of mesati-brachycephalism. Hence Chanda arrives at the conclusion that "not only social institutions, and language, but an important physical feature also, the shape of the skull, show that the *Indo-Aryans of the outer countries originally came from an ethnic stock that was different from the stock from which the Vedic Aryans originated.*"<sup>1</sup>

The difference in the cephalic index between the Biharis above mentioned and the Bengalis, will be seen from the following Summary which brings together the measurements taken by Chanda himself in 1909 and 1910 and now published.

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CHANDA, R. *The Indo-Aryan Races, Part I, Rajshahi, 1915, p. 59.*

## SUMMARY III.

Tribe or Caste.	Locality.	Percentage of cephalic Index.						
		Individuals.	X-08190.	70-72.4.	72.5-74.0.	75-77.4.	77-80.000.	80-0-X.
Banjar Brahmanas ...	Bihar	5	4	10	28	32	8	18
Nairāṅik ...	"	50	18	26	20	14	12	4
Rajputs or Chhetris ...	"	4	0.8	25	22.7	20.4	11.3	13.6
Kanaujya Brahmanas ...	"	25	4	32	28	20	0	10
"	United Provinces and Oudh	63	5	25	33	29	8	0
Brahmanas ...	Bengal	81	0	0.3	10	19.3	16	45.6
Pāṅḍya Vaṅḍik Brahmanas ...	"	40	2	0	4	22	20	46
Kapāṅḍya ...	"	20	0	0.6	10	17	20	30.6
Tāṅḍya or Tāṅḍika ...	"	25	0	4	4	8	40	24
Vāṅḍya ...	"	14	0	0	20.7	21.8	14.8	28.0
Nāṅḍya Brahmanas ...	"	25	0	2.0	17.2	22.6	14.2	37
Yāṅḍya Brahmanas ...	"	75	0	4	12	20	21	37

Likewise from the measurements published by Risley<sup>1</sup> will be seen the very great difference that exists between the Brahmanas of Eastern Bengal who show 35% of brachycephals (in living subjects) and the Brahmanas of the United Provinces, who have only 2%, or the Rajputs of Rajputana who have hardly 1.1%: we are here confronted by the problem of the brachycephals of India. Risley has quite rightly been preoccupied with this different bearing and he has explained it by assuming<sup>2</sup> a Mongolo-Dravidian origin for the Bengalis and Oriyas. But here too it is only a confusion that leads one to talk

<sup>1</sup> *Ethnographical Appendix to "Census of India," 1901, Report.*

<sup>2</sup> RIASY (H. H.), *Tribes and Castes of Bengal, Calcutta, 1891-1892; The People of India, op. cit., p. 23.*

absolutely of the brachycephals, while we have to distinguish between the brachycephals, with truly Mongoloid affinity—affinity which is revealed by other characteristics—and the brachycephals with Pamirian, that is to say, European, affinity, who have nothing to do with the former. In Nepal and in Assam, where “Men with Mongoloid physiognomy still predominate,”<sup>1</sup> it is justifiable to ascribe the brachycephals that are found there—and they are a minority—to Mongolian infiltration and therefore to call them Mongoloids. It is the mesorrhine, platopic, brachycephalic type, of low stature and yellowish complexion whom Risley himself found along the Northern and Eastern frontiers of Bengal.<sup>2</sup>

But the Brahmans mentioned above measured by Chanda did not show any Mongolian feature, and Chanda excludes it in general from the Bengalis and Oriyas, who, against Risley's hypothesis, possess neither the Mongolian nor the Dravidian type. This proves, in fact, that the above hypothesis is inconsistent, since the invasion by Mongolians—and in large numbers—would have to precede the introduction of the Aryan language and culture in the territories of Bengal and Orissa; but not one argument is there that would favour such a prehistoric Mongolian migration, and on the other hand also a Mongolian invasion could be composed of mesaticephalic people as it has been in the case of the Avars in Europe, and it is high time to do away with the prejudice that a Mongolian invasion and an invasion by brachycephals are one and the same thing.

The same inconsistency is presented by the explanation that Risley offers for the brachycephals in the western

<sup>1</sup> CHANDA (SL), *op. cit.*, p. 68. Nevertheless the major part of these Mongoloids do not show the brachycephalic skull; see Table II at the end of this sketch.

<sup>2</sup> RISLEY (H. H.), *The Study of Ethnology in India*. “*Journ. Anthropol. Inst.*,” XX, 1890, p. 258.



part of the peninsula: he supposes that among the Guj-rathis, the Marathis and the people of Coorg the brachycephals, who however are found in an appreciable proportion, are of Scythian origin. It is easy to object, as Chanda has done,<sup>1</sup> that the Scythians exercised a very brief dominion over the northern and western periphery of the Deccan and cannot be regarded as the progenitors of an immense mesati-brachycephalic population. These nomads of central Asia, who followed the Bactrians and the Parthians into India in the centuries immediately preceding and just beginning the Christian era, and are generally known as the Indo-Scythians, were certainly brachycephalic, according to Chanda, but too few in number, as is demonstrated by the fact that in the north of the peninsula, they have not succeeded in modifying, in the least, the indigenous physical type which has remained predominantly dolichocephalic. Much less, therefore, were they able to modify the physical character of the Dravidians of western India where their dominion was still more brief and intermittent: instead, even as far as the remote district of South Canara, in the coastal regions to the east of Mysora, we find the cephalic index (50 Billavas) to be 80.1. Evidently *the introduction of the brachycephals must go back to a prehistoric epoch, covering an area much wider than that of the Indo-Scythians, as is seen from the examples in Summary IV, which I have taken from Thurston.*<sup>2</sup>

<sup>1</sup> CHANDA (R.), *op. cit.*, p. 67. The hypothesis of the Murgalohi invasion from Central Asia to account for the presence of the brachycephals in Western and Southern India, has been rejected also by CROOK (W.), *Rajputs and Mahabutas*, "Journ. R. Anthropol. Inst.," XI, 1910, p. 46.

<sup>2</sup> THURSTON (R.) and BANERJEE (H.), *Castes and Tribes of Southern India*, Madras, 1909, Vol. I, Introduction, Tab. A and B. The same data are also found in part referred to by BIRNEY, *The People of India*, *op. cit.* App. III, p. 268; the series of the Coorgs I have taken from that work, p. 234; I have omitted the other brachycephalic series which the reader may find in BIRNEY, *op. cit.*, p. 268.

## SUMMARY IV.

*Tribes of the Southern Decan.*

Names of the Tribes.	Language.	Individuals	Stature.	Ceph. Index.	Nasal Index.
Holeyā	... Canarese	50	162.8	79.1	75.1
Betar (Admi)	... "	25	...	79.4	...
Karula (Hospak)	... "	50	162.7	78.9	74.0
Mandya Brahman	... "	50	165.7	80.2	78.0
Gauiga (Bolar)	... "	30	164.0	80.0	79.7
Wakkaliga (Mysore)	... "	50	167.2	81.7	78.0
Linga Bamsigga (Admi)	... "	30	163.4	80.1	74.1
Jangal (Bolar)	... Marathi	30	161.3	79.8	75.5
Suka Sate	... "	30	160.3	81.8	74.8
Sukun Sate	... "	30	161.1	82.2	74.9
Bilava	... Tulu	50	163.2	80.1	78.0
Kumati	... Telugu	25	...	81.9	...
Ony	... Kuluja	32	168.7	79.9	78.0

Whoever has any experience of figures knows that such a high average cannot be obtained without a certain percentage of brachycephals.

As regards the rise in the cephalic index that is observed in a still more remarkable degree in Beluchistan (*cf.* Table V) we have suggested, while speaking of the *Indo-Iranian* variety, that brachycephal individuals may belong, either to the *Pasirian* variety, as is probably the case with the Chhutas and the Bandijas, or to the *Altaic* variety, as we have demonstrated for the Hazaras, who are more to the north (Afghanistan). The influences of Central Asia accepted by Risley<sup>1</sup> are too vague and the denomination of "Turco-Iranian type" adopted by

<sup>1</sup> *The People of India*, *op. cit.*, p. 68.

him is not very happy: differing from Sergi, he does not believe that here we have to do with Mongoloids, not even in the case of the Hazaras,<sup>1</sup> which, instead, he should have been able to concede.

On general lines this is how Chanda writes: ".....the physical anthropology of the Pamirs and Chinese Turkestan, as gathered from data collected by Ujfalvy and Sir Aurel Stein, indicates that we need not lay the Turks, the Seythians and the Mongolians under contribution to explain the presence of broad or medium heads among outlandic Indo-Aryans or Indo-Afghans."<sup>2</sup> Chanda believes that the hypothesis of Haddon may be really true: "it seems quite possible that these brachycephals are the result of an unrecorded migration of some members of the Alpine race from the highlands of south-west Asia in pre-historic times."<sup>3</sup> At that time it must have happened that when penetrating into India the immigrants of the type of *Homo Alpinus* found the middle portion of the Gangetic plain (the above-mentioned "Midland") in possession of the Vedic Aryans, and thence they proceeded to a lower territory, and, leaving aside the table-land of Central India, they descended along its eastern border as far as Orissa. Other waves of the immigrants descended along the western side, passing into the peninsula of Kathiawar and the Deccan. The last wave may have been that of the people speaking the Pis̄cha languages (the Kashmiris,

<sup>1</sup> *Ibid.*, p. 26.

<sup>2</sup> CHANDA (R.), *op. cit.*, pp. 70-71.—It gives me great pleasure to state that Chanda in his work referred to, which I have received from India after my note already cited, "A proposito di alcuni risultati antropologici" etc. (published by me in the "Rend. della R. Acc. d. Sc. fis. e mat. di Napoli"), makes the same appreciation of the very unequal worth possessed by the facts gathered by Ujfalvy and Stein and by the hypotheses adapted ferociously by other authors.

<sup>3</sup> HADDON (A. C.), *The Races of Man*, London, pp. 19-21; cf. also of the same author: *The Wonders of Egypt*, Cambridge, 1911, p. 27.



holds that they came in prehistoric times perhaps by the sea-route.

Our opinion, while for leucodermic India it is in favour of the Haddon-Chanda hypothesis, would, for melanochroid India, be in favour of another solution: this is the problem of the black brachycephals.

We think that the solution of such a question, is to be sought in the prehistoric ethnic stratification which can be reconstructed for the regions to the west of Hindustan. There are many indices of a primitive stratification with equatorial characters, characters which, while they are quite different from those of the white and the yellow races, comprehend in their morphology also those of the Negritos. Lately, Håsing has admitted that in fact a coastal race of Negritos does appear as the most ancient population between India and the Persian Gulf.<sup>1</sup> Later, according to the same scholar, the interior of Iran might have had a Dravidian population, remnants of which are still to be found there, just as woolly-haired Negritos were preserved in Susiana up to historic times.<sup>2</sup> Now, the Dravidians, travelling from Iran into India, would have brought with them more brachycephalic elements, as we may suppose that these Negritos were, who anyhow are not wanting even in the Indian Peninsula. A band of Negritos is spread along the southern regions of Asia, and probably also Arabia—the terminal portion of anterior Asia, and comparable with regard to its geographical position with the Deccan, the terminal portion of the sub-Himalayan region—owes to the Negritos the elevation of the cephalic index among the inhabitants of the south.

<sup>1</sup> HÅSING (G.), *loc. cit.*, p. 242.

<sup>2</sup> They are those referred to as Negroids in the work of BIRNBAUM, *La necropole de Susse*.

The southern Arabs do not appear in the tables that I have prepared, since they represent an anthropological problem, it being not even quite certain that they are Leucodermic: those whom I have seen in the battalions of the Erythrean "Ascaris" made me suspect that they were not so. At any rate, I can give here some averages about their stature and the cephalic index: from 147 southern Arabs measured by various authors Seligman<sup>1</sup> has shown lately that 13 (8.5%) are dolichocephalic, 56 (37.5%) mesaticephalic, and 78 (53.3%) brachycephalic. The averages that have been obtained from the various series are as follows:

## SUMMARY V.

*Southern Arabs.*

	Individuals.	Stature.	Ceph. Ind.	Authors.
Arabs of Muscat	31	164.0	79.28	Laga & Joyce.
" Shaber	82	161.0	80.92	" "
" Yemen	20	164.3	81.07	" "
" "	16	163.0	83.60	Livi.
" "	25	166.1	82.60	Mugnier.
" "	9	160.6	79.30	Praxford.

The cephalic indices of Livi on account of technical reasons are higher by about one than the indices that I have from other authors: with this correction it will be seen that the data in Summary V correspond exactly to those of Summary IV, for stature as well as cephalic index.

The doubt that Southern Arabia also owes its tendency to brachycephalism to an ancient negroid substratum is made valid by the low stature of the Southern Arabs and

<sup>1</sup> SELIGMAN (U. G.), *The Physical Characters of the Arabs*, "Journ. B. Anthropol. Inst.," XLVII, 1917, p. 218. One finds further results in PRAXFORD (N.), *Studi sui materiali e sui dati antropologici ed etnografici ecc.*, "Arch. per l'Antrop. e l'Etna," XLV, 1917 e XLIX, 1919.

also by the few examples of curly hair which are found among them.<sup>1</sup>

Amongst the Hebrews also curly hair appears fairly frequent and it is sometimes accompanied by thick lips, although the Hebrews like the Arabs came originally from the north. But they descended so far towards the south as to meet those groups of dark natives, negritoids and others, which at that time extended from the mountains of Elam to those of Abyssinia and, by crossing with these, some have taken some somatic characters from them, as somatic characters are—as is known—transmissible separately.<sup>2</sup> Chronologically the descent of the Proto-Semites towards the equator must be placed at the same epoch as the peopling of Northern Africa by the Whites.

According to my opinion Africa did not intervene at all in peopling Asia. We have already said that according to Matthew's hypothesis successive waves left an anthropogenic centre situated in Central Asia, but this anthropogenic centre is in my opinion the leucodermic one. I place farther south the anthropogenic area of the more or less dark equatorial races, who are not necessarily all dolichocephalic: the same twofold division can be proved to exist, as among the Leucoderms and the Xanthoderms, so also in the other, more or less Melanochroid stock. I do not hold the preconception of Virchow of having water-tight compartments of the dolichocephals and brachycephals, adopted by the (Italian) polygenist anthropologists, as the greatest argument against the one origin for them both, which was far from the thoughts of Virchow himself. On the other hand, Sergi himself has not been able to unite together all the brachycephals of this world, which signifies that, according to

<sup>1</sup> For all these somatic comparisons cf. GIUFFRIDA-RUGGERI (V.), *Atti del antropologico fra Etiopia e Arabi meridionali*. "Giornale R. Istituto Orientale di Napoli," anno accadem. 1919-20.

<sup>2</sup> Cf. GIUFFRIDA-RUGGERI (V.), *L'omo atlante*, op. cit., Cap. I.



Sergi, somewhere else (in America, for example), they have originated together with the dolicho-mesaticephals; and if this has happened once or twice, it can also have happened three or four times.

Leaving aside this old fundamental difference, I am in accord with Sergi in the estimate of the closer affinity he perceives between the Dravidians and the Ethiopians with the exception of the Somáls and Gallas whose stature is too high. He says<sup>1</sup> that he does not find an affinity, anywhere else, with these Dravidians except in that African variety. I have precisely subdivided that variety into two sub-varieties, one of high stature and one of medium stature<sup>2</sup>: hence it is principally with this latter sub-variety that the aforesaid resemblance of *Homo Indoafricanus Dravidicus* shows itself. Sergi rightly separates from the Dravidians a highly platyrrhine type and of a stature less than medium, showing the greatest affinity with the Veddahs,<sup>3</sup> and together with this second type he also perceives a third, here and there in the peninsula specially among the Kadirs, which type is also platyrrhine and of a low stature but with short and woolly hair and a Negroid face.<sup>4</sup> They are the remnants respectively of the Australoids and the Negritos, who were afterwards more clearly placed in relief by Bissutti.<sup>5</sup>

We think that the following *ethnic stratification* can be given for India, commencing with the more ancient strata:

- (a) Negritos
- (b) Pre-Dravidians (Australoid-Veddaic)
- (c) Dravidians (having affinity with *H. Indoafricanus Ethiopicus*)

<sup>1</sup> SERGI (G.), *Europe*, op. cit., p. 490.

<sup>2</sup> GIUSEPPE BROCCATI (V.), *Studi etnol. antropologici del' Africa orientale*.

<sup>3</sup> Arch. per l'Antrop. e l'Etnol." XLV, 1915, fasc. 2, p. 179.

<sup>4</sup> SERGI (G.), *Europe*, op. cit., p. 492.

<sup>5</sup> *Ibid.*, p. 493.

<sup>6</sup> BISSUTTI (B.), op. cit., pp. 186-190.



- (d) Tall dolichocephalic (Mesopotamic?) elements (Toda).
- (e) Dolichocephalic Aryans (*H. Indo-europæus dolichomorphus*).
- (f) Brachycephalic Leucoderms (*H. Indo-europæus brachymorphus*).

These last, therefore, are in much attenuated proportion, as we have already said.

Our theory is that the Pre-Dravidians are Australoid-Veddahs and are not to be confused with an oriental extension of the Mediterranean race as Ripley thinks, or with Elliot-Smith's "Brown Race," whose anthropological consistency is somewhat equivocal, nor with Mitro's, Indo-Erythrean race, which embraces the pre-dynastic Egyptians also and is supposed to be Pre-Dravidian. On the contrary we believe that for the countries surrounding the Erythrean sea—pre-historic Egypt included<sup>2</sup>—it is sufficient to admit a type with Proto-Ethiopian characters (*i.e.*, having Dravidian affinity), and not with Pre-Dravidian, *i.e.*, Australoid-Veddahic characters.

It would be useful to see what physical characters are presented by the pre-historic skulls of India mentioned by Mitro, especially those of Bayana, which he refers to as of Pre-Dravidic Veddah type, and those of Adichanallur, which, according to Lapicque are also Pre-Dravidic but in a different sense from ours *i.e.*, rather negroid. There is lacking, up to the present a good illustration of all these materials,<sup>3</sup> but we hope

<sup>1</sup> Mitro (P.), *Prehistoric Quaternary, etc.*, op. cit., p. 183, and also *Prehistoric Arts*, etc., op. cit., p. 60.

<sup>2</sup> Cf. Giuffrida-Ruggieri (V.), *Were the Pre-dynastic Egyptians Libyans or Ethiopians?* "Man," XV, 1915, no. 1; and also: *A few notes on the neolithic Egyptians and the Ethiopians*, "Man," XVI, 1916, no. 8.

<sup>3</sup> Six of these skulls, which are in the Madras Museum collection gave Thurston (op. cit., Introduction, p. xxvi, see there fig. 4) four ceph. ind. below 60, but the other characteristics of these interesting prehistoric hyperdolichocephals of Southern India are unknown: one of these skulls is shown by Thurston in norma lateralis, it is prognathous with a receding forehead; on the whole they seem to show characteristics which are much less frequent in the actual population.

to have it soon with the progress which Anthropology is making in India, where the official teaching of this science has already been initiated and has been trusted to natives of the country, who are the most likely to know themselves and their past.

The Pre-Dravidians were followed by a finer type: although dark-skinned, the nose was less wide and not so deep at the root as in the Veddahs, and the profile much less prognathous, really almost orthognathous. It is the Dravidian type, akin to Ethiopian (not Negroïd, but in our sense!).

If we arrange a series of jungle tribes in the order of descending nasal index, it will be seen, as we advance from the platyrhiny to the mesorrhiny that there is an increase in the proportion per cent. of the Dravidian type, which we consider as mesorrhine, as contrasted with the type of their predecessors whom we consider as platyrhine. This is seen in Summary VI taken from Tables A and B of Thurston.

## SUMMARY VI.

*Tribes of the Southern Indian Jungles.*

	Individuals.	Stature.	Ceph. Index.	Nasal Index.
Panyan ... ..	25	157.4	74.0	85.1
Kadir ... ..	21	157.7	72.9	89.8
Krusasin ... ..	22	157.9	76.5	80.1
Shalaga ... ..	20	160.3	74.0	85.1
Leala of the Nilgiris ... ..	25	168.8	76.8	84.0
Mata Vedan ... ..	25	164.2	78.4	84.5
Karikur ... ..	20	165.2	78.4	84.0
Paldan ... ..	25	160.9	75.7	80.0
Chenchu ... ..	40	168.5	74.8	81.9
Drak ... ..	57	168.5	74.5	80.1

The Paniyans live in Wynad and parts of Malabar and of the Nilgiri district, and are described as "a dark-skinned tribe, short in stature, with broad noses and curly or wavy hair." At the top of the platyrrhines as they are, it is astonishing that Risley, who refers to the same figures, considers them as characteristic Dravidians. It is seen that the conception of the Pre-Dravidian type was unknown to Risley and hence he was unable to characterise adequately the Dravidian type, which begins to appear solely in the last representatives of Summary VI but must be much diffused among the tribes of Summary IV: this type is especially represented by the tribes which we place together in the following Summary VII according to the data of the census of India.

#### SUMMARY VII

##### *Typical tribes of Homo Indo-africanus Dravidicus.*

	Individuals.	Stature.	Oceph. Index.	Nasal Index.
Kols of the Nilgiris ...	25	102.9	74.1	77.2
Badags ...	40	104.1	71.7	75.9
Kurabs of Mysore ...	50	108.6	77.8	78.6

Comparing the last two summaries, one understands at once how the intercrossing of the jungle tribes with the Dravidian tribes has even at present the effect of diminishing the platyrrhine feature, as seen among the Tamil Irulas whose nasal index comes down to 80.4. Thurston expressly notes the physical change that takes place, when the tribes leave the jungle and approach the cities: thus the Canikars, who live near Travancore, have already 158.7 as stature and 81.2 as nasal index, instead of the low stature and the high nasal index

“which are characteristic of the unadulterated jungle tribes.”<sup>1</sup>

A great elevation of the nasal index is found in the so-called (by Risley) Dravidian tribes of Chota-Nagpur and of Western Bengal: here are the tribes (Munda and Kol) of the northern jungles, whose habitat Biasutti<sup>2</sup> includes in the area where a purer Veddaic substratum has persisted. We think that these tribes have wrongly been called Dravidian by Risley, who gives as characteristic Dravidians the Santals of Chota-Nagpur, who with the Panyans present the highest nasal index in the whole of India, as is seen in the following Summary which I take from Risley himself.<sup>3</sup>

SUMMARY VIII.

(*Pseudo-Dravidian*) Tribes of Chotanagpur and its neighbourhood.

Tribes or Castes.	Locality.	Individuals	Stature.	Ceph. Ind.	Nasal Index.
Mato	Santal Parganas	100	157.7	74.5	84.5
Mal Paharin	Do.	100	157.7	75.9	82.9
Kerwa	Lohardaga	21	159.5	74.4	92.5
Munda (Munda)	Do.	100	158.9	74.5	89.9
Khurwar	Do.	100	160.5	75.5	89.7
Santal	Santal Parganas	100	161.4	76.1	86.8
Bhuiya	Lohardaga	100	157.7	76.0	88.7
Khasia	Do.	78	160.1	76.5	88.5
Lohar	Do.	73	162.1	75.3	86.7
Bhandj	Manbhum	100	159.2	75.0	80.5
Oron	Lohardaga	100	162.1	75.4	86.1
Chit	Do.	29	159.9	73.8	82.9
Bhil	Mewar (Rajputana)	200	162.0	76.5	84.1

<sup>1</sup> *Ibid.*, Vol. I, Introduction, p. xlvii.

<sup>2</sup> Biasutti (R.), *op. cit.*, p. 117, and the chart at p. 97.

<sup>3</sup> Risley (H. H.), *The People of India*, *op. cit.*, p. 390.

Similarly the 29 Santals (settled near Ghoraghat in the district of Dinajpur) who were measured by Chanda<sup>1</sup> present nasal indices that range from a minimum of 76.6 to a maximum of 118.4.

Deniker recognises that the Veddahs are the remnants of a very primitive population "whose physical type is most approached by the platyrrhinous variety of the Dravidian race,"<sup>2</sup> thus indicating precisely the Santals, the Mundas, the Kols, the Bhumij, of whom we have given the anthropometric measurements in Summary VIII. We prefer to confine the Dravidian race to the mesorhine type.<sup>3</sup> In such manner we confer on the Pre-Dravidians the present numerical preponderance, and their importance in the ethnic stratification of India augments proportionally.

Everything induces us to hold that the Dravidians have really been a small number of *invaders, who have introduced their languages*, and even that not everywhere, since in the Munda-Kol zone more ancient languages have been preserved. It is logical that if the languages have remained inspite of the Dravidian influence, those who speak them should also have been little contaminated. There is, therefore, no reason to consider them as platyrrhine Dravidians, but certainly as Veddaic or Australoid; and from the fact that between the Munda-Kols of the North and the Veddahs of the south there intervene other platyrrhines (the Paniyans, etc.), these latter also represent the same ancient Pre-Dravidian formation that extended at one time over the whole of India and is even now much

<sup>1</sup> CHANDA (R.), op. cit., p. 264.

<sup>2</sup> DENIKER (J.), op. cit., p. 479.

<sup>3</sup> In that case it will do no harm to speak with Huxley: "The Munda-speaking peoples are stated to resemble so closely to Dravidians as to be indistinguishable from them" (*The Wanderings of Peoples*, op. cit., p. 21).

less affected by the newcomers (Dravidians, Aryans, etc.), than one might think !<sup>1</sup>

With this reconstruction of ours is in accord what Chanda has written of the people found by the Aryans at the time of their descent into India: *since it seems that the Aryans really found themselves confronted by the Veddaic people, the Dravidians remaining rather in the second line*. I draw the following facts from Chanda.

The Dasyus, or Non-Aryans of Vedic India, are the true Aborigines:<sup>2</sup> they are the fifth order of Vedic society, namely the Nishādas, who are mentioned in the most ancient literature and also afterwards in the Mahābhārata (XII, 59, 94-97) in the following terms: "The Nishādas, that is, these malicious tribes living in the hills and forests." But more important are the Puranic legends: in the Bhāgavata Purāna (IV, 14, 44) the Niṣādas are described as "black as crows, very low in stature, with short arms, having high cheek bones, low topped nose," etc. In the Viṣṇu Purāna (I, 13) the same Niṣādas are described as of "the complexion of a charred stake, with flattened features and dwarfish stature." Evidently they were too numerous to be made slaves *en bloc* and the Aryans confined themselves to despise them and to describe them unfavourably: in their description the anthropologist discerns the protomorphic equatorial characters: low stature, very dark pigmentation and platyrrhiny. The present Bhils and Gondṣ who live in the Vindhya hills—against which was the Aryan struggle—often present such characters.

<sup>1</sup> This is in accord with what Biasotti writes (op. cit., p. 101), "The Veddaic stocks, in form often much modified but always recognisable, has in this region a habitat almost continuous."

<sup>2</sup> According to CHANDA (op. cit., p. 1, et seq.), it has been erroneously asserted that the Śūdras represented the aborigines while they are none other than slaves, and they could also be Aryans, because in the Vedic period the Aryans fought not only against the Dāsas or Dasyus but also among themselves.

Chanda maintains that the Munda language has been spoken by the entire Niṣāda or Pre-Dravidian race, and has been preserved only by a part of them, namely, the wild tribes of Chotanagpur and the Savaras and Juangs of Orissa. The Bhils, instead, have taken up the Indo-aryan language, and the Gonds, the Khands and the Orsons together with the tribes of the South Indian jungles have taken up the Dravidian language. In all these tribes are found included the pre-existing Negritos.

While Thurston thinks that the Veddahs and the tribes of the South-Indian jungles may be called Pre-Dravidians,<sup>1</sup> Lapicque maintains instead, by observations that he has himself made in the interior of the Peninsula—that the Pre-Dravidian was of Negro type. He has seen on the border of the virgin forest and also on the hills partially covered with wood, “some groups in whom the Negro face, clearly designed, is wholly predominant.” In these groups “the hair is generally curled and among them may be observed some that may even be called woolly.”<sup>2</sup> This is not surprising, if, as already I have pointed out, we are dealing with remnants of the Negritos.

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<sup>1</sup> THURSTON (E.) and RANGARANI (K.), *op. cit.*, Vol. I, Introduction, p. xxxi.

<sup>2</sup> LAPICQUE (L.), *Les Nègres d'Asie et la race Nègre en général*. “*Rev. Scient.*” VI, July, 1908.

## IV

Veddajic people and Negritos are also found outside India showing some relation between each other and precisely with regard to their language, if we take into consideration the conclusions of Father Schmidt,<sup>1</sup> who finds linguistic affinities among the Mundas of India, the Nicobarese (Negritos), the Palong, the Wa and Riang of the Salwin basin, the Sakai (Veddajics) and Semang (Negritos) of the Malacca Peninsula,<sup>2</sup> and the Mon-Khmer of Indo-China. The Tibeto-Burman dialect also which prevails in the Himalayas, from Kunawar in the Punjab up to Darjeeling, preserves traces of an ancient language which undoubtedly has Munda characteristics, as also the language of the Khasis of Assam, though their physical appearance is rather Mongoloid.

I am forced to conclude that these protomorphie Asiatics had a linguistic unity which was wider than their somatic unity, but which must have been acquired secondarily, the Pre-Dravidians by their greater expansion having encroached upon Negritoid nucleuses. The Mon-Khmer affinities extend themselves into Indonesia, but here also we pass gradually into another somatic unity, since the Indonesians cannot be confounded either with the Negritos or with the Veddajics, although they are less distant from the latter than from the former and have many kindred relics in Indo-China. We pass over the anthropology of Indonesia of which the

<sup>1</sup> Schmidt (W.), *Die Mon-Khmer-Fölker*. "Arch. f. Anthrop." N. F., V, 1906; and also *Die Wiederung der Australischen Sprachen*, Wien, 1910.

<sup>2</sup> CHAKRA (op. cit., p. 9) mentions the Sakai and the Semang as having affinity with the Veddas, but this is not quite accurate since the Sakai and the Semang differ from each other, the Semang as well as the so-called black Sakai having characters mostly of the Negritos, for which reason they are separated from the Veddas in our tables (X, XI and XII).



outlines have already been traced in another work<sup>1</sup>: the anthropometric diagnosis of the two Indonesian varieties—they appear in the system as a small species and a variety—is given according to the data in Tables VII, VIII and IX. We include in a last Summary all these data and those of Tables X, XI and XII, which refer to the varieties with which we have been occupied in this last part, so that herein may be found the anthropological position of all of them.

## SUMMARY IX.

*Anthropometric Characters of Natives of the Indian Peninsula and some islands*

	Stature.	Ceph. Index (Loring)	Nasal Index (Loring)
H. Australis Veddaicus ... ..	1571-1589	74.5-75.1	84.2-89.9
H. Australis Veddaicus Senolens ... ..	1529-1552	75.5-78.7	85.0-91.9
H. Australis Veddaicus totus ... ..	1573	82.2	.....
H. Pygmaeus Asiaticus ... ..	1490-1507	77.7-82.7	87.1
H. Pygmaeus Asiaticus Archipelagicus ... ..	1485	82.9	.....
H. Pygmaeus Asiaticus Philippinensis ... ..	1401	86.5	101.9
H. Indo-africanus Dravidicus <sup>2</sup> ... ..	1629-1636	71.7-77.3	79.5-77.8
H. Oceanicus (?) Alpin ... ..	1567-1581	70.6-77.3	.....
H. Indonesiacus ... ..	1520-1607	75.5-81.5	77.9-100.4
H. Indocessicus brachimorphus ... ..	1548-1618	82.1-86.0	76.2-82.6

<sup>1</sup> GIUFFRIDA-RUGGERI (V.), *I caratteri craniologici degli Indonesiani*, loc. cit.

<sup>2</sup> These refer to Summary VII in the text.

As will be seen, in this summary the Todas do not appear beside the Ainus, notwithstanding that De Quatrefages and Sergi have placed them together, which probably the former would not have done, if he had known the remarkable points of difference that have since been ascertained. The stature, the somatic proportions and the facial aspect, specially with regard to the nose and the cheek-bones, all give a very different morphology which the hypertrichy succeeds in covering insufficiently and only at first sight.<sup>1</sup> The Todas therefore are placed among the unclassified of Tables IV (occupying a position very near the maximum height), V and VI, it not being possible, on account of their marked occidental physical aspect, to place them outside the Leucoderms,<sup>2</sup> if ethnic anthropology corresponds to something concrete rather than being simply subjective.

A last hypothesis about the Ainus has been started by Bonarelli; he says, "I am of opinion that Tibet was inhabited originally by a human type of the Indo-Iranio-Mediterranean group who afterwards pushed on as far as Japan where the still living Ainus appear to be their modern descendants. In other words, I do not see that these Proto-Iranoids could have advanced as far as Japan (leaving in China evident traces of their passage), by any other way than the Tibetan region."<sup>3</sup> It seems to me

<sup>1</sup> The hypothesis "Toda-Ainus" has been criticized also from the geographic point of view by BUAZZI (*op. cit.*, p. 173, note 4). His notes (362, p. 61) moreover, that the nasal index of the Ainus taken by Kaganzi cannot be made use of, like the others that are ordinarily taken, and therefore the average given by Kaganzi, evidently too low, does not appear in my summary IX.

<sup>2</sup> As something rather comic, may be cited what we read on p. 166 of the treatise, *Les races humaines* published about 1910 on the Todas, who are said to be related by their language to the Australians, by the formation of their head to the ancient Romans, and, lastly, considered "to be the most ancient race of India having preserved some of the peculiarities of the Negritos." Happily the author has remained anonymous.

<sup>3</sup> BONARELLI (G.), *Alcuni problemi d'antropologia sistematica*. "Anál. Soc. Cient. Argent." T. LXXXV. Buenos Ayres, 1916, p. 48.

that this migration to the islands of the Pacific could have taken place only in very ancient times when, China being almost uninhabited, it would have escaped the contamination of type. If this hypothesis takes us back to an epoch in which central Asia was not yet divided between the Leucoderms and the Xanthoderms, when these types perhaps had not yet come into existence, then we have still greater reason on our side to consider the Aina as an archeomorphous (this term is preferred by Bonarelli) relic, without actual systematic affinity.

Probably the two subdivisions of *H. Indonesiensis*, made according to the approximate indication derived from the cephalic index, are not sufficient and one ought to examine the other characters, as we have done for *H. Asiaticus*; the nasal index specially shows too great oscillations which might be distributed into several minor groups. It would be desirable that the large islands of Indonesia were subjected to an extensive anthropological survey like that splendid one that Great Britain has made in India, and as the United States are doing for the Philippine Islands. The measurements of Hagen are hardly useful—he takes the nasal length on the ridge of the nose—and also the high nasal index found by Kohlbrugge among the Tengerese would require to be confirmed.

In Summary IX those islanders that have the characters of *Homo Asiaticus* are not included, since they would be out of place, such for example, as many natives of the Philippines, and so also the natives of Formosa. On the contrary many of the Formosans and likewise the Igorots of Luzon are considered by Hrdlička<sup>1</sup> as good representatives of the primitive yellow type. The Igorots are shown

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<sup>1</sup> Hrdlička (A.), *The Genesis of the American Indian*, "XIX International Congress of Americanists," Washington, 1917, p. 606.

among the unclassified in Tables I, II, and III, and if confronted with the fundamental summary about *H. Asiaticus* which is our Summary I, it is seen at once that their nasal index is too high. Instead, the Formosans fit exactly by stature, cephalic index and nasal index into the frame of the *H. Asiaticus protomorphus*, who include much of the population of Assam, the Miao-tsè and Lu-tsè of the Cuang-so and other neighbouring tribes (Lissu, Lolo), considered for a long time as the most primitive populations of this sub-Chinese region.

We have evidently here a dolicho-mesaticephalic type, which Hrdlička finds also in a large portion of Tibet, in Mongolia, in various parts of Siberia—and this study of ours confirms it (*vide* Tables I, II, and III)—and who are not entirely wanting, neither in China nor in Corea, nor in Japan. Only we observe that in all these regions it is less platyrrhine than in south-east China (and much less platyrrhine than in the Philippines); so that it is necessary to decide whether the existence of the platyrrhine character is explained by the greater primitivity of these southern populations, or whether it is explained by an admixture that occurred with another human type, which presented the platyrrhine feature among its morphological characters.<sup>1</sup>

The recent work of Williams<sup>2</sup> gives us an idea of the ethnic stratification which seems to be found in S.E. Asia. Williams holds that towards 1100 B.C. Burmah,

<sup>1</sup> For the Igorots measured by Kroeber, to which the nas. ind. of Table III refers, there can be no doubt that we are dealing with an admixture with the Negritos as we have an average of 80.6, max. 133.6 and min. 82.6: I therefore—the available nature of such data is well known to us—place them among the unclassified. The pure type (or Bontoc Igorots) has certainly not so high a nas. ind.: it is only necessary to see their portraits published by Bean, Worcester, Yanka, and others, as is suggested in the "Amer. Journ. Phys. Anthropol.," Vol. 11, 1915, p. 442.

<sup>2</sup> WILLIAMS (E. T.), *The Origins of the Chinese*. "Amer. Journ. Phys. Anthropol.," Vol. 1, 1918, n. 2.

Siam, Cambodia, Annam, and probably a portion of Southern China were partially inhabited by wild Negritos, who were gradually pushed to the mountains (he affirms that in Burmah there are still some Negritos, who are called Selung) and towards the sea. It remains to be known where they can have gone once they reached the Chinese sea, because they are not to be found in the coastal region; it would be interesting to know now whether the Negritos of the Philippines, are a transplantation of the continental Negritos, who at one time—the epoch cannot be precisely stated and this is hardly of any importance—held the southern zone of Asia; besides, it would be most important to ascertain whether the transmigrated Negritos have been followed by *H. Asiaticus protomorphus*. In fact, this last would have been able in this way to acquire a meso-platyrrhine character more accentuated than their own, whether on the continent or in the islands, the platyrrhine feature being precisely a conspicuous morphological character of the Negritos. This solution has the advantage of doing without the Indonesian type in the Philippines, which could have been peopled in another way than Indonesia; only in later times the Malayu diffusion—which has very little anthropological importance—has uniformly worked on the coasts of all these insular territories, giving rise to an extensive metamorphosis, which lends itself to various interpretations.<sup>1</sup>

Nothing useful for Ethnology can be drawn from the analytical works of Bean, who has been led astray by the mirage of the identification of the individual morphological

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<sup>1</sup> I recommend to the reader the useful work of SERRAN (L. R.), *Racial Types in the Philippine Islands*. "Anthrop. Pap. Amer. Mus. Nat. Hist." XXIII, Part I, New York, 1918. The reader will also find here many series of natives (statues, eph. ind. and oss. ind.) which we have omitted on account of their uncertain systematic collection.

type: individually there are crania of Cro-Magnon type and of an infinite number of other types—but it is all an illusion due to the metamorphism which has taken place. In whatever part of the habitable globe such a process has been proved to have taken place—Pycraft has ultimately selected Dutch New Guinea—there results a similar pseudo-zoological hotch-potch, when one considers the individual resemblances brought out by the profile of a cranium. Even for morphological analysis one needs “the grain of salt,” which is easily lost when one follows the main road of the migrations by sea dear to Elliot Smith.

We need not occupy ourselves with them, although we hold that the Indonesians and the Polynesians are off-shoots of the yellow stock, who by their insular residence have become distinct species or sub-species.

In the interior of the Asiatic continent the centre of propulsion of the ethnic movements appears to be situated in the north. The Shu who later were called the Chinese, lived in ancient times in the upper valley of the Yellow River, but their traditions place the cradle of their race more to the N.W. The classical work denominated *Shan Hai King*, written not later than 1122 B.C., shows that the Chinese of that epoch referred always to the N.W. as the country of their ancestors and demigods. In this same region there was somewhere a country of “white men”: the marvellous country of the mythical ancestors is beyond the “North Western” Sea. Williams believes that it refers to Kokonor; but there are other lakes of the same and even larger dimensions (*e.g.*, Issik-Kul and Balkash which is very large) towards Thiansan and Zungaria, which are really the regions to the N.W. of China: a lake larger than the present Lobnor occupied probably the depression in which the Tarim flows. It is useless to insist on what, for the time at

least, cannot be affirmed with any decisive proof, nor do I wish to bring in here other arguments which are known by specialists of other branches of science; but every one sees that in various ways the possibility of the double anthropological centre in the north<sup>1</sup>—centre of origin of the two great human types the white and the yellow (beside which there are only equatorial types who are more or less pigmented)—is strongly placed before the attention of physical anthropologists, without making any excessive appeal to their faculty of imagination, by which it is well that they should not be overmuch endowed.



<sup>1</sup> Granted the theory of Orogenesis, it would perhaps be a case of species by couples that is to say of two twin species, born, as Huxley says, "by the duplication of a common immediate progenitor." Even many of Huxley's theoretic provisions seem to be confirmed by facts: Huxley writes: "These species by couples ought to be recognised by characters which make them closely approach each other, leaving a considerable interval between the two species of the couple and those near, perhaps also they might with some facility produce hybrids among themselves, although not viable, and then they ought to occupy almost a common area, in spite of eventual differences of habitat, and the two species ought to be found associated with each other even in regions that are not connected." Huxley (D.), *Orogenesi. Nuova teoria dell'evoluzione e della distribuzione geografica dei viventi*. Firenze, 1863.

The so-called epiogens of Indo-China, the Pseudo-Mediterranean of New Zealand and others would find an explanation in a common progenitor. And the theory would take a decisive step forward, if one could verify between the two species some constant relations in the number of the chromosomes; which should not be very difficult.

## SYNOPSIS METHODICA

Tables to be used for the making of new maps of the geographical distribution of anthropometrical characteristics in Asia (almost all the data which are found in the text in Summaries III, IV, V, VI, VII and VIII are here omitted.)

## ANTHROPOMETRIC TABLES.

Tab.	I.—Stature of the Asiatic Xanthoderms	...	...	89 series
"	II.—Ceph. Ind.	"	"	86 "
"	III.—Nas. Ind.	"	"	62 "
"	IV.—Stature of the Asiatic Leucoderms	...	...	53 "
"	V.—Ceph. Ind.	"	"	63 "
"	VI.—Nas. Ind.	"	"	46 "
"	VII.—Stature of the Indonesians and allied peoples	...	...	31 "
"	VIII.—Ceph. Ind.	"	"	31 "
"	IX.—Nas. Ind.	"	"	26 "
"	X.—Stature of the Australoids, Negroids, etc.	...	...	17 "
"	XI.—Ceph. Ind.	"	"	16 "
"	XII.—Nas. Ind.	"	"	9 "



TABLE I.  
Statons of the Asiatic Xantodermis.

	Individuals	Average	Percentages				Authors or former classifications
			×-1000	1000-10000	10000-15000	15000-∞	
<i>H. asiaticus</i> Chinese ...	138	1027	37	30	31	12	U. (1841)
" " northern (andlers)	842	1076					Koganei
" " " majority from Gbi-II	33	1674					Gompp
" " " west of Ba-shua ...	100	1612					Legendro
" " " southern	1652	1023					D. (1900)
" " " successive Chakchi	102	1685	42	49	40	13	U. (1911)
" " " Bakimo asiatic	61	1623	41	33	21	5	" "
" " " jekenschiwa Jakaghiri ...	50	1480	86	14			" "
" " " Garinch	187	1699	67	30	13		" "
" " " Chaschadaea	99	1601	44	40	10	6	" "
" " " Tanges from Ghinaginsk	62	1683	17	13	6	2	" "
" " " " Aandic ...	22	1573	77	14	9		" "
" " " " Galsma ...	9	1686	76		11	11	" "
" " " Ornteei ...	27	1646					" (1904)





"	"	"	"	"	"	"	"	1639	33	39	22	17	Einsatti
"	"	"	"	"	"	"	"	1640	106	90	27	20	Ir. (1911)
"	"	"	"	"	"	"	"	1671	32	28			Cens. Ind.
"	"	"	"	"	"	"	"	1687	35				" "
"	"	"	"	"	"	"	"	1690	65				" "
"	"	"	"	"	"	"	"	1699	26				" "
"	"	"	"	"	"	"	"	1670	67				" "
"	"	"	"	"	"	"	"	1684	26				" "
"	"	"	"	"	"	"	"	1692	32	28	31	6	Einsatti
"	"	"	"	"	"	"	"	1693	60				Cens. Ind.
"	"	"	"	"	"	"	"	1669	61				" "
"	"	"	"	"	"	"	"	1609	33				" "
"	"	"	"	"	"	"	"	1666	34				" "
"	"	"	"	"	"	"	"	1604	25				" "
"	"	"	"	"	"	"	"	1633	18				" "
"	"	"	"	"	"	"	"	1608	9	63	33		Ir. (1911)
"	"	"	"	"	"	"	"	1675	30				Legendre
"	"	"	"	"	"	"	"	1686	6				Delisle
"	"	"	"	"	"	"	"	1660	31				Touss

TABLE I.—continued.

	Individuals	Average	Percentages				Antibars or previous contamination
			1901-1903	1901-1930	1931-1933	1934*	
<i>M. ositoides</i> <i>grammoptera</i> Lu-Asak (Cebu-ai) ...	10	1914	50	40	—	IV. (1911)	
" " Formosa ...	48	1916	—	—	—	VIII	
" <i>sericeipes</i> Chakama (Hengamat) ...	100	1916	—	—	—	Cera. Ind.	
" " Birmata ...	231	1930	—	—	—	D. (1900)	
" " Annamita ...	174	1930	46	14	4	IV. (1911)	
" " " " ...	407	1935	—	—	—	D. (1900)	
" " Laosiana ...	59	1930	—	—	—	" "	
" " Siamata ...	30	1907	—	—	—	" "	
Unclassified Groups arranged in the order of stages:							
Igorots (Luzon) ...	104	1940	—	—	—	Bean	
Malaya from Malacca ...	12	1933	67	16	—	IV. (1911)	
Japanese ...	24000	1936	—	—	—	D. (1900)	
Keris (Cochin) ...	13	1938	53	27	—	IV. (1911)	
Malaya from South-Peak ...	26	1934	—	—	—	Annamata	



TABLE II.  
Ceph. Ind. of the Asiatic Xantodermis.

	Individuals	Average	Percentages					Asiatic or previous collections.
			× 79.00	75.01-77.51	77.74-80.00	80.01-83.33	83.34+	
<i>Z. asiatica</i> Chikusa	186	79.66	9	23	14	27	23	Ir. (1911)
" "	942	80.2						Koganei
" "	100(?)	79.8						Legende
" "	171	83.0	2	13	28	35	27	Ir. (1911)
" "	100	80.8	3	13	37	37	15	" "
" "	58	80.4	2	30	32	34	12	" "
" "	103	80.0	2	16	35	38	21	" "
" "	68	78.5	14	30	33	18	5	" "
" "	48	78.7	24	37	17	30	9	" "
" "	23	80.8	8	4	36	36	17	" "
" "	10	78.5	20	80	30	20	—	" "
" "	186	79.28						" (1904)
" "	187	80.7	2	21	16	36	25	Benkeno
" "	75	78.8	11	31	31	24	9	"









TABLE II—continued.

	Individuals	Averages	Percentages					Authors or previous conclusions
			70-00	75-01-77-57	77-78-80-00	80-01-83-33	83-34	
<i>B. asiatica</i> , <i>var. orientalis</i> Chikama (Bangkok?)	101	84-3	—	4	15	41	40	Dens. Test.
" " Burmesa	281	80-1						D. (1000)
" " Annamites	105	82-05						Tr. (1011)
" " "	182	82-8						D. (1000)
" " Laotiana	95	83-0						" "
" " Sinesa	17	80-5						" "
<i>Reclassified Groups arranged according to rising ceph. ind.:</i>								
Dungani "	38	76-05	50	24	34	8	8	Tr. (1011)
Japanese "	10	77-05						Born
Igorota (Luzon)	104	77-6						" "
Lopik (Cochin)	38	77-02	10	27	33	16	6	Joyce
Japanese "	111	78-15						Tr. (1011)
Malays from Malacca	21	81-25	—	8	35	35	50	" "



TABLE III.  
Nasal Iod. of the Asiatic Xanthoderms.

	Individuals	Average	Percentages.			Authors or former compilations.
			× 20000	10000-20000	× 10000	
<i>P. asiaticus</i> Chinese	180	71000	15	67	28	Iv. (1911)
" "	100(?)	7200				Legesdre
" " " " " " " "	0	5870	11	78	11	Iv. (1911)
" " " " " " " "	127	7685	16	60	16	Hadenke
" " " " " " " "	74	7911	7	75	18	"
" " " " " " " "	34	7700	11	83	6	"
" " " " " " " "	37	7811				Osculipka
" " " " " " " "	21	7600				"
" " " " " " " "	119	7900				"
" " " " " " " "	—	798				"
" " " " " " " "	72	7020(?)	37	62	1	Sinifukow
" " " " " " " "	23	7600	10	69	15	Iv. (1911)
" " " " " " " "	34	7800	27	53	20	"
" " " " " " " "						"

"	"	Cosball	"	"	85	79-84	14	60	25	"	"
"	"	Obasli	"	"	65	74-81	20	78	9	"	"
"	"	Melaki	"	"	35	71-16	43	54	8	"	"
"	"	Sugai	"	"	67	74-87	28	65	7	"	"
"	"	Lebediya	"	"	61	78-89					Malin
"	"	centrale Manchù	"	"	110	108-97(?)					Therî
"	"	Tungus chamangai	"	"	24	71-88	52	39	9		Ev. (1911)
"	"	Boriata	"	"	—	72-5					Footstall
"	"	Togufe	"	"	—	100-46(?)					Ev. (1904)
"	"	Kirghis	"	"	172	108-94	50	37	7	"	" (1911)
"	"	Carakingia	"	"	47	74-97	28	35	17	"	"
"	"	Theracht Yarkim	"	"	52	78-29					Jagers
"	"	Hanza (Afghanistan)	"	"	200	80-0					Comp. Ind.
"	"	Telengela	"	"	89	75-8					Hilakó
"	"	élheims Loutali	"	"	31	75-14	20	42	20		Ev. (1911)
"	"	"	"	"	41	75-51	20	50	15		Bianchi
"	"	J'ibekana eastern	"	"	144	78-60	34	51	15		Ev. (1911)
"	"	"	"	"	11	74-57					Delisle
"	"	Kombu (Negali)	"	"	92	76-8					Comp. Ind.

TABLE III—continued.

	Individuals	Average	Percentage			Anthrax or perianth complications.
			0-10	10-50	50-100	
<i>M. anophelis tibetanus</i> Monger (Nepal)	65	79.4				Cane. Ind.
" " Murel (Nepal and Darjeeling)	63	75.2				" "
" " Gurung "	26	79.3				" "
" " Lepcha (Sikkim)	67	67.2				" "
" " Lepcha King (Sikkim)	60	75.2				" "
" " Anghimphok Dhangpa (Tibet)	62	71.72	47	47	6	Bismuth
" " " Lambu (Nepal)	50	74.1				Drug. Ind.
" " profomerphus Khasis (Assam)	81	66.3				" "
" " " Bedo "	33	66.0				" "
" " " Mandi "	34	65.0				" "
" " " Mishing "	26	84.0				" "
" " " Arlong "	18	63.1				" "
" " " Lajo (Yunnan)	4	65.39				Dietsle

"	"	Lohe (Ho-shuan)	...	...	20	1630				Legendre
"	"	"	"	...	6	88-07				Dallaire
"	"	Miao-tai (Ouangsai)	...	...	27	86-1				Torii
"	"	Lu-tai	...	...	10	84-38				Dallaire
"	"	Formosus	...	...	48	84-9				Torii
"	"	seridionia Chakma (Rongmuai)	...	...	100	84-5				Comp. Ind.
"	"	Annamites	...	...	18	83-57	2	56	43	Fr. (1911)
Duangsai	...	...	...	...	102	56-18(?)	86	11	8	Fr. (1911)
Uebags	...	...	...	...	13	49-08	46	39	15	" "
Japanese	...	...	...	...	116	73-04	30	61	10	" "
Loplik (Oushghar)	...	...	...	...	268	75-76				Agnes
Karia	"	...	...	...	14	91-1	—	67	31	Fr. (1911)
Malay from Malacca	...	...	...	...	18	91-11	8	50	30	" "
" South-Peak	...	...	...	...	37	81-2				Annamites
Igorots (Luzon)	...	...	...	...	18	80-8(?)	—	6	04	Fr. (1911)

Unclassified Groups arranged acc. to rising nos. ind. r





"	"	"	Achakan's Expedition	100	1792	27	37	39	27	"	"
"	"	"	Pauli	100	1677					"	"
"	"	"	Kuhar	112	1060					"	"
"	"	"	Tavris	100	1080					"	"
"	"	"	Dowar	200	1042					"	"
"	"	"	Pravosl (Belchistan)	108	1680					"	"
"	"	"	(non-Mediteranean) Russian (Persia)	11	1658	27	37	39	27	Fr. (1811)	"
"	"	"	Achbedjanis "	210	1698					D. (1807)	"
"	"	"	Persians Dagomí	108	1651					"	"
"	"	"	Yardi (Azerbaidjan)	33	1633					Susschischewski	"
"	"	"	Bowarbaz	80	1715	—	5	25	70	Fr. (1811)	"
"	"	"	Jews from Palestine	14	1680	27	21	14	7	"	"
"	"	"	" (Spanish) from Jerusalem	30	1693	17	17	23	13	"	"
"	"	"	Jemchi (Tibet)	20	1670	—	3	70	25	"	"
"	"	"	Arachinopus armeno-persianensis Goleba	58	1667	14	24	41	21	"	"
"	"	"	Tajiks	448	1840	8	22	18	62	"	"
"	"	"	Wakhi (Cashghar)	10	1650					Joyce	"
"	"	"	Armenians	140	1671	12	23	26	20	Fr. (1811)	"
"	"	"	"	16	1681					Pridner	"

TABLE IV—continued.

	Individuals	Average	Percentage				Authors or previous descriptions
			1901-1950	1951-1960	1961-1970	1971-X	
<i>H. indonesiensis</i>							
"	"	1707					Pittard
"	"	1670					"
"	"	1668					D. (1900)
"	"	1680					Chenies
"	"	1695	12	81	62	61	Tr. (1911)
"	"	1670					Belzes
"	"	1682	18	59	44	61	Tr. (1911)
"	"	1654					D. (1900)
"	"	1660					"
"	"	1658					"
"	"	1646					"
"	"	1663	28	22	83	41	Tr. (1911)
<i>H. brachiocephala</i>							
"	"	1670					
"	"	1670					
"	"	1668					
"	"	1680					
"	"	1695					
"	"	1670					
"	"	1682					
"	"	1654					
"	"	1660					
"	"	1658					
"	"	1646					
"	"	1663					

Descent Groups arranged in the order of stature :

Binghalise	...	...	...	49	1624	43	12	36	10	" "
Klinton (Cachgar)	...	...	...	19	1646	20	25	21	25	" "
" "	...	...	...	67	1656					Jayce
Turks from Asia Minor	...	...	...	135	1670	3	18	49	21	Ir. (1911)
Saril	...	...	...	229	1677	17	24	38	33	" "
Corala	...	...	...	143	1680					Chantze
Todes	...	...	...	94	1683	0	13	41	23	Ir. (1911)
" "	...	...	...	32	1693					Gene. Ind.
Tats (Transcaucasian)	...	...	...	28	1700					Chantze





TABLE V—continued.

	Individuals.	Average.	Percentages					Authors' provisions, comparisons.
			75-01-77-77	77-79-80-80	80-01-83-83	83-84		
<i>B. latronum</i> sp. nov. <i>brachycephalus</i> <i>ovatus</i> <i>peruvianus</i> <i>Tajike</i>	440	84-92	1	6	3	50	95	Fr. (1911)
" "	19	84-81	—	—	—	—	—	Jepson
" "	823	80-86	—	—	2	17	80	Fr. (1911)
" "	134	85-90	—	—	—	—	—	Phipps
" "	68	86-90	—	—	—	—	—	" "
" "	151	86-91	—	—	—	—	—	" "
" "	27	87-88	—	—	—	—	—	Chantee
" "	33	84-7	—	—	—	—	—	D. (1930)
" "	22	80-6	—	—	—	—	—	Chantee
" "	40	86-89	—	—	—	—	100	Fr. (1911)
" "	10	84-00	—	—	—	—	—	Sénece
" "	30	84-1	—	—	—	—	—	Fr. (1911)
" "	15	89-0	—	—	—	—	—	v. Loebner





TABLE VI.  
Nasal Index of the Asiatic Leucoderms.

	Individuals.	Averages.	Percentages.			Authors or persons exemplifications.
			4-70.00	70.01-95.00	95.01-100.00	
<i>M. indicostrepens indicostrepens</i> Dohrn	...	68.2	69	32	9	Le. (1911)
"	Kafir	72.04				Joyce.
"	Dardi	63.88	74	20	—	Le. (1911)
"	Machaga (Dardi)	71.57	63	31	6	Risauhi
"	Kanet (Kohn)	74.1				Gemm, Ind.
"	" (Lachaf)	66.4				" "
"	Rajput	71.6				" "
"	Punjabi	70.2				" "
"	Sikh	69.8				D. (1900)
"	Indo-irany Beluchi (Beluchistan)	69.4				" "
"	" "	72.0				" "
"	Achakasi Pathan	68.3				Gemm, Ind.
"	Pand	73.0				" "

"	"	Kabac	"	"	112	66.6	40	20	10	"	"
"	"	Tarim	"	"	100	67.8				"	"
"	"	Demar	"	"	200	74.2				"	"
"	"	Bahai	"	"	198	70.1				"	"
"	"	irano-indo-iranica	Buziani	(Persia)	10	72.25	40	20	10	Ir. (1911)	"
"	"	Acherbaiani	"	"	112	64.80				Chinese	"
"	"	Yezidi (Mesopotamia)	"	"	23	61.50	90	10	—	Gerachianreke	"
"	"	Samaitani	"	"	20	59.0	80	11	—	Ir. (1911)	"
"	"	Fellachi from Palestine	"	"	55	63.37	80	11	—	"	"
"	"	Jawa	"	"	14	61.1	100	—	—	"	"
"	"	brachiocephala armeno-persiana	Galicia	"	27	66.8				D. (1900)	"
"	"	"	Wakhi (Cashgar)	"	10	71.32				Joyce	"
"	"	Armenian	"	"	734	63.55	73	90	2	Ir. (1911)	"
"	"	"	"	"	125	68.06				Pittout	"
"	"	Cardis brachycephala	"	"	62	63.94				"	"
"	"	Lozi (Transcaucasia)	"	"	152	67.69				"	"
"	"	"	"	"	27	64.45				Chentre	"
"	"	Aleuts (Titha)	"	"	22	67.3				"	"
"	"	Melians (Lebanon)	"	"	10	64.23				Sines	"
"	"	Aurens (Antioch)	"	"	29	73.0	41	51	8	Ir. (1911)	"



Table VII. Stature of the Indonesians and allied peoples.

	Individuals	Averages	Percentages				Anticora sur previous comparisons
			× 1890	1901-1909	1911-1920	1921 ×	
<i>H. indonesiensis</i> Indonesians	...	...	70	11	8	5	Tr. (1911)
"	...	1500	74	16	60	—	" "
"	...	1571	42	1577			Malacca
"	...	1530	12	1530			"
"	...	1585	16	1585			"
"	...	1530	10	1530			"
"	...	1607	45	28	10	8	Tr. (1911)
"	...	1587	62	27	11	—	" "
"	...	1603	44	36	19	2	" "
"	...	1547	—	—	—	—	K'oirang de Zornan
"	...	1570	40	32	12	7	" "
"	...	1623	152	—	—	—	Tr. (1911)
"	...	1594	57	30	12	1	" "
"	...	1594	308	—	—	—	" "

TABLE VII—continued.

	Individuals.	Averages.	Percentages.				Auditors or previous completions.
			1901-1950 × 1890	1951-1960	1961-1970	1971- ×	
<i>H. Indonésienste Brochingsche Usan</i> (Borneo)	52	1291				Badman	
" " " Sibung	14	1542				"	
" " " Rangi (Celebes)	15	1401	41	46	13	Ev. (1911)	
" " " Macassar "	14	1018	38	39	—	" "	
" " " Baccara	14	1415	43	49	7	" "	
" " " "	125	1247				D. (1900)	
" " " Madurese "	13	1406	54	23	15	Ev. (1911)	
Malays (principally from Sumatra)	915	1650	79	14	6	" "	
Kajon (Borneo)	34	1684	61	24	6	" "	
" " " "	21	1650				Badice	
Funoh	18	1689	70	8	22	Ev. (1911)	
" " " "	16	1550				Badice	

(Unclassified Groups (unchanged up) :

Kanib	"	"	"	"	26	14928	04	24	8	"	"
Tungia (Colaba)	"	"	"	"	25	15718	04	24	8	"	Dr. (1911)
Arcoata	"	"	"	"	20	15854				"	Lablens
Caurodians (Mer)	"	"	"	"	11	10323	27	50	18	"	Dr. (1861)
"	"	"	"	"	117	1048				"	D. (1857)
"	"	"	"	"	359	1463				"	"

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TABLE IX.  
Nos. Incl. of the Indonesians and allied peoples.

	Individuals.	Averages.	Percentages.			Awards or positions conspicuous
			× 100	1901-1905	× 100	
<i>H. Indonesians Indonesian</i>	...	...	...	...	...	...
"	Ulu-ujur (Borneo) ...	88.17	3	37	68	Ev. (1911)
"	Dayaks " ...	70.8	...	10	81	" "
"	Banuan " ...	86.9	...	...	...	Baden
"	Malang " ...	87.1	...	...	...	"
"	Leisong " ...	88.3	...	...	...	"
"	Leisong " ...	87.6	...	...	...	"
"	Tangerases (Java) ...	107.31	...	8	92	Ev. (1911)
"	Orang-Koba (Sumatra)	97.17	3	13	81	" "
"	Sumbanese	81.0	...	...	...	Tom Kake
"	Malavesi	102.24	...	...	...	Ev. (1911)
"	Masagesa	77.28	18	70	77	Kleinweg de Zwaan
"	Amboinoyahs Javaiese	82	4	46	50	Ev. (1911)
"	Bandaesees (Irian Java)	87.74	...	...	...	" "

"	"	Elan (Dornee)	...	...	59	92-6	—	44	56	Headon
"	"	Sibaja	...	...	14	81-9	—	44	56	"
"	"	Togit (Cadiak)	...	...	15	88-97	—	64	58	IV, (1911)
"	"	Mocmots	...	...	14	84-20	—	64	48	"
"	"	Bavensen	...	...	14	83-14	14	43	48	"
"	"	Madurese	...	...	10	74-24	23	62	68	"
Unclassified Groups (unch mixed up):										
		Malays (principally from Sumatra)	...	...	257	77-11	20	62	78	"
		Kujau (Dornee)	...	...	48	84-1	2	54	44	"
		"	...	...	20	91-6	—	64	28	Headon
		Punan	...	...	14	62-0	—	64	28	IV, (1911)
		"	...	...	19	88-1	—	—	—	Headon
		Kenab	...	...	96	92-7	—	64	36	"
		Cambodian Kruar	...	...	11	86-0	—	64	36	IV, (1911)

Table X. Stature of the Australoids, Negroids, etc.

	Individuals	Averages	Percentages				A. values or positions corresponding
			1000	1001-1050	1051-1200	1201-1400	
			x 1000				
<i>E. australis</i> <i>caffraensis</i> <i>Tyblitzi</i> ...	28	1571	71	22	7	1	Ir. (1911)
" "	160	1680	61	30	10	2	" "
" "	33	1720	67	0	—	—	" "
" "	30	1510	90	10	—	—	" "
" "	19	1762	68	27	5	—	" "
" "	64	1534	81	0	—	—	" "
" "	25	1558	64	29	6	—	" "
" "	17	1567	—	—	—	—	Annuaire
<i>E. pygmaea</i> <i>melanoleuca</i> <i>Sarawagi</i> ( <i>Malacca</i> ) ...	29	1680	—	—	—	—	D. (1906)
" "	9	1562	89	—	11	—	Dr. (1911)
" "	42	1403	98	2	—	—	" "
" "	116	1488	—	—	—	—	D. (1900)
" "	91	1461	100	—	—	—	Dr. (1911)
<i>H. indopacifica</i> ( <i>melanoleuca</i> ) <i>Tamile</i> ...	81	1698	59	31	27	13	" "
" "	693	1620	87	27	24	12	" "
" "	70	1581	74	20	0	—	" "
" "	16	1567	—	—	—	—	Regener

Table XI. Ceph. Ind. of the Australoids, Negroids, etc.

	Individuals.	Averages.	Percentages.				Anterior or posterior completions.
			H. 34. x				
			H. 70-80	76-86-77-87	77-78-80-90	80-90-95-98	
<i>H. australis</i> <i>ceballica</i> Yuddha ...	58	79.1	—	—	—	D. (1900)	
" " Munda ...	100	74.3	—	—	—	Tr. (1901)	
" " <i>remicava</i> Benni (Malacca) ...	98	78.99	18	16	16	" "	
" " Bakais from Sumatra ...	19	75.46	87	95	—	" "	
" " " (white) from Malacca ...	68	78.7	—	—	—	D. (1903)	
" " " Mal Darat ...	84	78.3	—	—	—	Assandole	
" " <i>male</i> Trada (Celebes) ...	58	82.2	—	0	20	Tr. (1901)	
<i>H. melanopus</i> <i>orientalis</i> Somanga (Malacca) ...	90	77.7	—	—	—	Assandole	
" " " Sabais (Iliak) ...	98	79.9	—	—	—	D. (1900)	
" " " Orang Aket (Bassak) ...	0	89.04	—	11	55	Tr. (1901)	
" " <i>arabianensis</i> Andamans ...	11	83.90	—	—	64	" "	
" " <i>phylippinensis</i> Acton ...	34	83.49	—	3	87	" "	
<i>H. indoprimus</i> <i>franciscus</i> Toula ...	140	76.96	89	14	14	" "	
" " " Hindus (principally Dravidians) ...	629	76.2	41	94	12	" "	
<i>H. capensis</i> (?) also Africa ...	70	76.5	24	40	32	" "	
... ..	85	77.2	—	—	—	Konrad	

Table XII. Nas. Inv. of the Australoids, Negroids, etc.

	Individuals	Aunties	Percentages.			Aunties or previous complications.
			8-10-00	10-01-75-09	76-01 *	
<i>I. australis</i> <i>radiatus</i> Vedda	8	84.18				Dechianga Tr. (1911)
" " Munda	100	80.9	32	78		" "
" " <i>senecioides</i> Senoi	33	86.96	43	68		Annandale
" " " Mori Dora	39	91.9				"
<i>I. pygmaea</i> <i>malinica</i> Remangs (Malaca)	37	97.1				Tr. (1911)
" " <i>pithecioides</i> Acha	98	101.9	6	94		" "
<i>M. indonésiensis</i> <i>desioides</i> Tamila	43	76.07	13	57	13	" "
" " <i>Minha</i> (particularly <i>Draiviliana</i> )	5004	83.37	14	70	16	" "
<i>M. senecioides</i> (?) <i>sinu</i> Aina	70	88.0(?)				Kagnesi

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